MEMORANDUM TO: Ogden College of Science and Engineering Curriculum Committee

Dr. Todd Willian
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, March 30, 2017 4:00 p.m. in COHH 4123

A. OLD BUSINESS:

I. Consideration of the minutes of the March 2, 2017 meeting.

B. NEW BUSINESS:

Consent Items

Department of Agriculture

I. Proposal to Revise Course Prerequisites/Corequisites
   a. AGED 300, Youth Development for Agriculture Educators, 3 hrs.

Action Items

Department of Agriculture

I. Proposal to Create a New Course
   a. ANSC 130, Introduction to Horse Science, 2 hrs.
   b. ANSC 131, Introduction to Horse Science Lab, 1 hr.

II. Proposal to Revise a Program
   a. Ref. 508, Major in Agriculture, 50 hrs.

Department of Architectural Manufacturing Sciences

I. Proposal to Create a New Course
   a. AMS 490A, Senior Research for Architectural Sciences, 3 hrs.
   b. AMS 490B, Senior Research for Construction Management, 3 hrs.
   c. AMS 490E, Senior Research for MET, 3 hrs.
   d. AMS 490F, Senior Research for Technology Management, 3 hrs.

Department of Engineering

I. Proposal to Create a New Course
   a. ENGR 360, Modeling and Simulation of Dynamic Systems, 3 hrs.

Department of Psychological Sciences

I. Proposal to Create a New Course
   a. PSYS 322, Laboratory in Developmental Psych, 1 hr.

b. PSYS 334, Laboratory in Cognition, 1 hr.

II. Proposal to Revise a Program

a. Ref. 747, Major in Psychological Sciences, 37-49 hrs.

C. **OTHER BUSINESS**

Minutes – OCSE Curriculum Committee **March 2, 2017**

MEMBERS PRESENT:

Dr. Todd Willian
Dr. Huanjing Wang
Dr. Warren Campbell
Dr. Xingang Fan
Jan Wilson for Dr. Melanie Autin
Dr. Doug Harper
Dr. Andy Mienaltowski
Dr. Les Pesterfield
Guest: Dr. Sigrid Jacobshagen
Guest: Dr. Walter Collett
Guest: Dr. Robin Ayers
Guest: Dr. Natasha Gerstenschlager

FROM: Ken Crawford, Chair

OLD BUSINESS:

Campbell/Pesterfield moved for approval of the minutes of the February 2nd meeting. Motion passed.

NEW BUSINESS:

Consent Agenda

Campbell/Pesterfield moved to approve the Department of Biology Consent Items. Motion passed.
Harper/Campbell moved to approve the Department of Engineering Consent Items. Motion passed with friendly amendment.
Harper/Campbell made a motion to move the Department of Math Consent Item: Math 117 to the action agenda. Motion passed.

Action Agenda

Department of Agriculture

Campbell/Pesterfield moved to approve Proposal to Create a New Course: AGMC 326. Motion passed with friendly amendment.
Harper/Campbell moved to bundle items II, a & b. Motion passed. Harper/Campbell moved to approve Proposals to Make Multiple Revisions to a Course: AGRO 409 and AGRO 422. Motion passed.
Campbell/Pesterfield moved to approve Proposal to Revise a Program: Ref. 308, Minor in Agriculture. Motion passed with friendly amendment.

Department of Biology

Campbell/Harper moved to approve Proposal to Make Multiple Revisions to a Course: Biology 398. Motion passed with friendly amendment.
Pesterfield Harper moved to approve Proposal to Revise a Program: Ref. 714, Investigative Biotechnology. Motion passed.

Department of Engineering

Pesterfield/Harper moved to bundle items I, a & b. Motion passed. Pesterfield/Harper moved to approve Proposal to Revise Course Credit Hours: CE 400 and EE 400. Motion passed.

Campbell/Willian moved to approve Proposal to Revise a Program: Ref. 534, Civil Engineering. Motion passed.

Department of Mathematics

Pesterfield/Mienaltowski moved to approve Proposal to Revise a Course Number: Math 225. Proposal approved.

Campbell/Harper moved to approve Proposal to Revise Course Prerequisites/Corequisites: Math 117. Motion passed.

Campbell/Harper moved to approve Proposal to Create a New Course: Math 123. Motion passed with friendly amendment.

OTHER BUSINESS:

None

Proposal Date: February 28, 2017

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

Contact Person: Tom Kingery, thomas.kingery@wku.edu 270-745-5966

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: AGED 300
   - 1.2 Course title: Youth Development for Agriculture Educators

2. **Current prerequisites/corequisites/special requirements:** AGED 250

3. **Proposed prerequisites/corequisites/special requirements:** AGED 250 or MGE 275

4. **Rationale for the revision of prerequisites/corequisites/special requirements:** This change will allow students from other career and technical disciplines to take the course as part of their program.

5. **Effect on completion of major/minor sequence:** This will have no effect on the program sequencing.

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

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

Department of Agriculture	March 2, 2017
Ogden College Curriculum Committee	
Professional Education Council	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: February 21, 2017

Ogden College of Science and Engineering
Department of Agriculture
Proposal to Create a New Course
(Action Item)

Contact Person: Jennifer Gill, jennifer.gill@wku.edu, 610-703-7861

1. Identification of proposed course:

1.1 Course prefix (subject area) and number: ANSC 130
1.2 Course title: Introduction to Horse Science
1.3 Abbreviated course title: Introduction to Horse Science
(maximum of 30 characters or spaces)
1.4 Credit hours: 2 Variable credit: No
1.5 Grade type: Standard letter grade
1.6 Corequisites: ANSC 131
1.7 Course description: An introductory study of equine science including an overview of the horse industry, anatomy, management, reproduction, nutrition, genetics, behavior and disease.

2. Rationale:

2.1 Reason for developing the proposed course:
The horse industry is extremely diverse and offers excellent employment prospects. Horses are especially important to the culture of Kentucky with its extensive racing, breeding and performance sectors. Students preparing for careers in agriculture will benefit from a basic understanding of horse science. Students will acquire the skills to provide basic care for horses.

2.2 Projected enrollment in the proposed course:
Approximately 10-15 students per semester based upon enrollment in two previous temporary course offerings.

2.3 Relationship of the proposed course to courses now offered by the department:
This course will expand upon ANSC 140 (Introduction to Animal Science), providing an overview of horse science. This course has been taught successfully as ANSC 475 in the past. This course will be a prerequisite for ANSC 330 Horse Production and will differ from ANSC 330 in depth of study. The proposed course will complement the current animal science curriculum with an overview of horse-specific topics.

2.4 Relationship of the proposed course to courses offered in other departments:
No other departments provide instruction on equine science.

2.5 Relationship of the proposed course to courses offered in other institutions:
Many institutions nationwide offer an introductory horse science course for animal science and/or equine science majors. Comparable courses that are offered at universities in Kentucky include: AGR 302 Horse Science (Murray State University), 100 Equine Studies (Ashbury

University) and EQS 165 Introduction to the Equine Industry (Midway University).

3. Discussion of proposed course:

3.1 Schedule type: L

3.2 Learning Outcomes:

Upon completion of this course, students will have gained

- An understanding of the importance of the horse from early civilization to present day.
- Specific knowledge of equine anatomy and physiology.
- The ability to apply basic principles of behavior, genetics, conformation, reproduction, nutrition, farrier science and health care to practical horse management scenarios.
- Knowledge pertaining to the cause, treatment and prognosis of diseases/disorders.
- The ability to describe successful feeding practices for different horse classes.

3.3 Content outline:

- Horse industry
- Musculoskeletal anatomy and physiology
- Unsoundness and blemishes
- Genetics, horse colors and markings
- Nutrition
- Gastrointestinal diseases and colic
- Reproduction
- Health management: vaccination and disease prevention
- Parasite control
- Farrier science
- Behavior and training
- Conformation and judging
- Riding disciplines

3.4 Student expectations and requirements:

Assigned readings, examinations, in-class quizzes, activities and discussions, individual horse breed presentations

3.5 Tentative texts and course materials:

- Equine Science: Basic Knowledge for Horse People of All Ages. By J. Griffiths. 2008. Equine Network, Boulder, CO.
- The Comprehensive Guide to Equine Veterinary Medicine. By B. Crabbe. 2007. Sterling Publishing, New York, NY.
- Horse Anatomy: A Coloring Atlas. 2nd Edition. By R. A. Kainer and T. O. McCracken. 1998. Alpine Publications.

4. Resources:

4.1 Library resources: See attached Library Resource Form and Bibliography

4.2 Computer resources: Adequate

5. Budget implications:

5.1 Proposed method of staffing: Current faculty
5.2 Special equipment needed: None
5.3 Expendable materials needed: None
5.4 Laboratory materials needed: None

6. Proposed term for implementation: Fall 2017

7. Dates of prior committee approvals:

Department of Agriculture _____
Ogden College Curriculum Committee _____
Undergraduate Curriculum Committee _____
University Senate _____

Attachment: Course Inventory Form

Bibliography
ANSC 130 Course Proposal

Griffiths, J. T. Equine Science: Basic Knowledge for Horse People of All Ages 2008. Equine Network, Boulder, CO. 230p.

Crabbe, B. The Comprehensive Guide to Equine Veterinary Medicine 2007. Sterling Publishing, New York, NY. 340p.

Kainer, R. A., and McCracken, T. O. Horse Anatomy: A Coloring Atlas. 2nd Edition, Alpine Publications. 81p.

Frape, D. Equine Nutrition and Feeding 2010. 4th Edition, Wiley-Blackwell. 493p.

Parker, R., Equine Science 2003. 2nd Edition, Delmar Leaning. 669p.

Brinsko, S. P. Manual of Equine Reproduction (electronic reference) 2011. 3rd Edition, Elsevier, St. Louis, MO. 400p.

3D Equine Software. Biospera.org 2017.

Proposal Date: February 21, 2017

Ogden College of Science and Engineering
Department of Agriculture
Proposal to Create a New Course
(Action Item)

Contact Person: Jennifer Gill, jennifer.gill@wku.edu, 610-703-7861

1. Identification of proposed course:

1.1 Course prefix (subject area) and number: ANSC 131
1.2 Course title: Introduction to Horse Science Laboratory
1.3 Abbreviated course title: Horse Science Lab
(maximum of 30 characters or spaces)
1.4 Credit hours: 1 Variable credit: No
1.5 Grade type: Standard letter grade
1.6 Corequisites: ANSC 130
1.7 Course description: Laboratory study of equine science including an overview of the horse industry, anatomy, management, reproduction, nutrition, genetics, behavior and disease.

2. Rationale:

2.1 Reason for developing the proposed course:
The horse industry is extremely diverse with many areas of involvement. Students often graduate with an animal science degree and go on to professional school with little horse-handling experience. Students greatly benefit from hands-on learning with live animals. Many techniques and procedures relating to the health, behavior and care of horses can be taught only with live animals.

2.2 Projected enrollment in the proposed course:
Approximately 10-15 students per semester based upon enrollment in one previous temporary course offering.

2.3 Relationship of the proposed course to courses now offered by the department:
This laboratory will expand upon ANSC 141 (Introduction to Animal Science Laboratory), providing an overview of horse science. ANSC 131 will be a prerequisite for ANSC 330/331 (Horse Production/Horse Production Laboratory) and will differ from ANSC 331 in depth of study.

2.4 Relationship of the proposed course to courses offered in other departments:
No other departments provide instruction on equine science.

2.5 Relationship of the proposed course to courses offered in other institutions:
There are no universities in Kentucky that offer an introductory horse science laboratory; however, Ohio State University offers an ANIMSCI 2221 (Introduction to Equine Science) lecture course that has a laboratory; Virginia Tech offers APSC 2124 Horse Management and Handling Laboratory; and Texas A&M has an EQSC 240 Introduction to Equine Science combined lecture and lab.

3. Discussion of proposed course:

3.1 Schedule type: B

3.2 Learning Outcomes:

Upon completion of this course, students will have gained

- Hands-on application of equine anatomy and physiology through guided activities with the horse.
- Knowledge pertaining to hoof care, dentistry, nutrition, behavior and veterinary medicine demonstrated by equine industry professionals.
- Working knowledge of genetic inheritance and coat color traits.
- The ability to recognize feeds and determine a basic ration for a horse.
- An understanding of horse conformation as it relates to soundness and movement.
- An understanding of the considerations involved with equine facility design.

3.3 Content outline:

- Horse anatomy
- Coat color genetics
- Gastrointestinal anatomy and physiology
- Feed identification
- Principles of feeding
- Health management
- Farrier science
- Conformation and gaits
- Facility design

3.4 Student expectations and requirements:

Assigned readings, practical examinations, crossword puzzle activities and discussion board topics.

3.5 Tentative texts and course materials:

- Horse Anatomy: A Coloring Atlas. 2nd Edition. By R. A. Kainer and T. O. McCracken. 1998. Alpine Publications.

4. Resources:

4.1 Library resources: See attached Library Resource Form and Bibliography

4.2 Computer resources: Adequate

5. Budget implications:

5.1 Proposed method of staffing: Current Faculty

5.2 Special equipment needed: None

5.3 Expendable materials needed: non-toxic paint, cadaver limbs for hoof trimming

5.4 Laboratory materials needed: horse skeletal and system preserved models, charts and visual aids.

6. Proposed term for implementation: Fall 2017

7. Dates of prior committee approvals:

Department of Agriculture _____

Ogden College Curriculum Committee _____

Undergraduate Curriculum Committee _____

University Senate _____

Bibliography
ANSC 131 Course Proposal

Griffiths, J. T. Equine Science: Basic Knowledge for Horse People of All Ages 2008. Equine Network, Boulder, CO. 230p.

Crabbe, B. The Comprehensive Guide to Equine Veterinary Medicine 2007. Sterling Publishing, New York, NY. 340p.

Kainer, R. A., and McCracken, T. O. Horse Anatomy: A Coloring Atlas. 2nd Edition, Alpine Publications. 81p.

Frape, D. Equine Nutrition and Feeding 2010. 4th Edition, Wiley-Blackwell. 493p.

Parker, R., Equine Science 2003. 2nd Edition, Delmar Leaning. 669p.

Brinsko, S. P. Manual of Equine Reproduction (electronic reference) 2011. 3rd Edition, Elsevier, St. Louis, MO. 400p.

3D Equine Software. Biospera.org 2017.

Proposal Date: March 1, 2017

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

Contact Person: Todd Willian, todd.willian@wku.edu, (270) 745-5969

1. **Identification of program:**
   - 1.1 Current program reference number: 508
   - 1.2 Current program title: Major in Agriculture
   - 1.3 Credit hours: 50

2. **Identification of the proposed program changes:**
   - Addition of AGEC 160
   - Inclusion of AGEC 360 as an optional course rather than a required course
   - Addition of AGMC 326 as an optional course
   - MATH 115 or higher as a required support course replaces MATH 116 or higher (except for students in the Pre-Veterinary Medicine concentration)

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	Proposed
This major in agriculture requires a minimum of 50 semester hours in agriculture and leads to a Bachelor of Science degree. Electives chosen from agriculture courses focusing on a concentration, when approved by an assigned advisor, complete the minimum total of 50 semester hours in agriculture. At least half of the semester hours in the major must be in courses numbered 300 or above. All students must take the following courses outside of the major: • Mathematics Course (3 hours): ~~MATH 116 or higher~~ • Chemistry Courses (6 hours): CHEM 105, 107, 120, or 222 • Chemistry Labs (2 hours): CHEM 106, 108, 121, or 223 • Biology Course and Lab (4 hours): BIOL 120, 121 (Note: Students pursuing the Horticulture	This major in agriculture requires a minimum of 50 semester hours in agriculture and leads to a Bachelor of Science degree. Electives chosen from agriculture courses focusing on a concentration, when approved by an assigned advisor, complete the minimum total of 50 semester hours in agriculture. At least half of the semester hours in the major must be in courses numbered 300 or above. All students must take the following courses outside of the major: • Mathematics Course (3 hours): **MATH 115 or higher (Note: Students focusing in Pre-Veterinary Medicine must take MATH 116 or higher)** • Chemistry Courses (6 hours): CHEM 105, 107, 120, or 222 • Chemistry Labs (2 hours): CHEM 106, 108, 121, or 223

Concentration may take BIOL 120 and 121 or BIOL 122 and 123.) • Basic Agriculture Courses (29 hours) AGRO 110 (3) ANSC 140 (3) AGMC 170/171 (2/1) AGRI 175 (1) AGMC 176 (2) AGRI 291 or AGRI 491 (3) ~~AGRO 320 or ANSC 345 (3)~~ AGRO 350 (3) ~~AGEC 360 (3)~~ AGRI 397 (1) AGRI 398 (1) AGRI 494 (3)	• Biology Course and Lab (4 hours): BIOL 120, 121 (Note: Students pursuing the Horticulture Concentration may take BIOL 120 and 121 or BIOL 122 and 123.) • Basic Agriculture Courses (29 hours) AGRO 110 (3) ANSC 140 (3) **AGEC 160 (3)** AGMC 170/171 (2/1) AGRI 175 (1) AGMC 176 (2) AGRI 291 or AGRI 491 (3) **AGRO 320 or ANSC 345 or AGEC 360 or AGMC 326 (3)** AGRO 350 (3) AGRI 397 (1) AGRI 398 (1) AGRI 494 (3)

4. **Rationale for the proposed program change:** These changes move our required AGEC course from junior level to freshman level and add flexibility to our requirement for a 300-level core elective by including four concentrations to choose from. Additionally, replacing MATH 116 or higher with MATH 115 or higher provides a better fit for agriculture majors since most (except Pre-Veterinary Medicine students) will never enroll in additional mathematics courses.

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

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

Department of Agriculture	March 2, 2017
OCSE Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 3-1-2017

Ogden College of Science and Engineering
Architectural and Manufacturing Sciences Department
Proposal to Create a New Course
(Action Item)

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

1. Identification of proposed course:

1.1 Course prefix (subject area) and number: AMS 490A
1.2 Course title: Senior Research for Architectural Sciences
1.3 Abbreviated course title: Sr Resear Architect Sciences
1.4 Credit hours: 3 Variable credit - NO
1.5 Grade type: Standard Letter
1.6 Prerequisites: AMS 363 with a grade of "C" or better, AMS 488 with a grade of "C" or better
1.7 Course description: Students work on capstone research projects utilizing skills and knowledge from prior courses in the Architectural Sciences program. Projects in this course will simulate real life projects encountered in industry.

2. Rationale:

2.1 Reason for developing the proposed course: As the AMS Department has become more diverse over the years, thus the need for more specialized skill sets for different disciplines has become obvious. Attaching specific prerequisite courses to discipline specific senior capstone coursework is intended to help the students be successful in the course.
2.2 Projected enrollment in the proposed course: 20
2.3 Relationship of the proposed course to courses now offered by the department: AMS 490 is currently offered in the AMS Department. This is the current senior research course, AMS 490A will be specifically for students in the Architectural Sciences baccalaureate program.
2.4 Relationship of the proposed course to courses offered in other departments: Many Departments have capstone courses in their departments and individual programs. These courses are specific to individual degree programs. The intent of AMS 490A is to be specific to the Architectural Sciences program.
2.5 Relationship of the proposed course to courses offered in other institutions: Most baccalaureate programs in technological areas require a capstone course of some variety prior to graduation.

3. Discussion of proposed course:

3.1 Schedule type: C — Lecture/Lab
3.2 Learning Outcomes:

- Develop a comprehensive project proposal related to the student's major field.

- Demonstrate technical writing and reporting skills throughout the proposal, progress reporting, project manual, and final deliverable product.
- Use research, analysis, and writing skills to execute and implement proposed project
- Produce periodic progress reports
- Finalize and submit comprehensive technical report
- Effectively present project plan and findings

3.3 Content outline:

3.4 Student expectations and requirements: Acceptable complexity of project to ensure students are meeting the desired quality level. Reports completed are technically and grammatically accurate, progress reports are completed through semester, final project documentation turned in as an artifact, presentation at WKU Student Research Conference

3.5 Tentative texts and course materials: NO TEXT

4. Resources:

4.1 Library resources: See attached form

4.2 Computer resources: Students should be able to matriculate through this course with current access to computer resources on campus and within the AMS Department.

4.3

5. Budget implications:

5.1 Proposed method of staffing: AMS 490A will replace AMS 490 course in the Architectural Sciences Program. AMS 490 has been taught for over 13 years as discipline specific course. The load will be similar to that which currently exists within the AMS Department.

5.2 Special equipment needed: Software that AMS Department currently has available

5.3 Expendable materials needed: Model making material

5.4 Laboratory materials needed: Design Studio is currently in the stages of being created and renovated

6. Proposed term for implementation: Spring 2018

7. Dates of prior committee approvals:

Architectural and Manufacturing Sciences Dept.	**3-3-2017**
OCSE College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 3-1-2017

Ogden College of Science and Engineering
Architectural and Manufacturing Sciences Department
Proposal to Create a New Course
(Action Item)

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

1. Identification of proposed course:

1.1 Course prefix (subject area) and number: AMS 490B
1.2 Course title: Senior Research for Construction Management
1.3 Abbreviated course title: Sr Research for Construction
1.4 Credit hours: 3 Variable credit - NO
1.5 Grade type: Standard Letter
1.6 Prerequisites: CM 250 with a grade of "C" or better, CM 363 with a grade of "C" or better, AMS 390 with a grade of "C" or better
1.6.1 Pre or Co-Requisite: CM 462
1.7 Course description: Students work on capstone research projects utilizing skills and knowledge from prior courses in the Construction Management program. Projects in this course will simulate real life projects encountered in industry.

2. Rationale:

2.1 Reason for developing the proposed course: As the AMS Department has become more diverse over the years, thus the need for more specialized skill sets for different disciplines has become obvious. Attaching specific prerequisite courses to discipline specific senior capstone coursework is intended to help the students be successful in the course.
2.2 Projected enrollment in the proposed course: 20
2.3 Relationship of the proposed course to courses now offered by the department: AMS 490 is currently offered in the AMS Department. This is the current senior research course, AMS 490B will be specifically for students in the Construction Management baccalaureate program.
2.4 Relationship of the proposed course to courses offered in other departments: Many Departments have capstone courses in their departments and individual programs. These courses are specific to individual degree programs. The intent of AMS 490B is to be specific to the Construction Management program.
2.5 Relationship of the proposed course to courses offered in other institutions: Most baccalaureate programs in technological areas require a capstone course of some variety prior to graduation.

3. Discussion of proposed course:

3.1 Schedule type: L—Lecture
3.2 Learning Outcomes:
- Students show technical competency in Construction management area
- Supporting evidence (project) is professional

- Project manual outlining course of action is free of errors in content and grammar
- Final presentation explains project clearly, concisely, and shows subject matter competency

3.3 Content outline:

- Projects assigned for student learning activities
- Students work on projects in construction industry to accomplish schedules estimates and goals
- Presentations and Technical reports accomplished by students through semester
- Final project completed in period of the semester

3.4 Student expectations and requirements: Proposals submitted, papers completed are technically and grammatically accurate, progress reports completed through semester, final project documentation turned in as an artifact

3.5 Tentative texts and course materials: NO TEXT

4. Resources:

4.1 Library resources: See attached form

4.2 Computer resources: Students should be able to matriculate through this course with current access to computer resources on campus and within the AMS Department.

5. Budget implications:

5.1 Proposed method of staffing: AMS 490B will replace AMS 490 course in the Construction Management Program. AMS 490 has been taught for over 13 years as discipline specific course. The load will be similar to that which currently exists within the AMS Department.

5.2 Special equipment needed: none

5.3 Expendable materials needed: Documents from various completed built works.

5.4 Laboratory materials needed: none

6. Proposed term for implementation: Spring 2018

7. Dates of prior committee approvals:

Architectural and Manufacturing Sciences Dept.	**3-3-2017**
OCSE College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 3-1-2017

Ogden College of Science and Engineering
Architectural and Manufacturing Sciences Department
Proposal to Create a New Course
(Action Item)

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

1. Identification of proposed course:

1.1 Course prefix (subject area) and number: AMS 490E
1.2 Course title: Senior Research for Manufacturing Engineering Technology
1.3 Abbreviated course title: Senior Research for MET
1.4 Credit hours: 3 Variable credit - NO
1.5 Grade type: Standard Letter
1.6 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;
1.6.1 Pre or co-requisites AMS 396, AMS 394
1.7 Course description: Students work on capstone research projects utilizing skills and knowledge from prior courses in the Manufacturing Engineering Technology program. This is a lecture lab course that will incorporate all aspects of manufacturing in a simulated facility.

2. Rationale:

2.1 Reason for developing the proposed course: As the AMS Department has become more diverse over the years, thus the need for more specialized skill sets for different disciplines has become obvious. Attaching specific prerequisite courses to discipline specific senior capstone coursework is intended to help the students be successful in the course.
2.2 Projected enrollment in the proposed course: 20
2.3 Relationship of the proposed course to courses now offered by the department: AMS 490 is currently offered in the AMS Department. This is the current senior research course, AMS 490E will be specifically for students in the Manufacturing Engineering Technology baccalaureate program.
2.4 Relationship of the proposed course to courses offered in other departments: Many Departments have capstone courses in their departments and individual programs. These courses are specific to individual degree programs. The intent of AMS 490E is to be specific to the Manufacturing Engineering Technology program.
2.5 Relationship of the proposed course to courses offered in other institutions: Most baccalaureate programs in technological areas require a capstone course of some variety prior to graduation.

3. Discussion of proposed course:

3.1 Schedule type: C—Lecture/Lab: Combination of formal presentation and experimental study.
3.2 Learning Outcomes:

- Develop a comprehensive project proposal related to the student's major field of study
- Demonstrate technical writing and reporting skills throughout the proposal, progress reporting, project manual, and final deliverable product.
- Finalize and submit comprehensive technical report
- Produce an artifact within specifications

3.3 Content outline:

- Use research, analysis, and writing skills to execute and implement proposed project
- Produce periodic progress reports
- Finalize and submit comprehensive technical report
- Effectively present project plan and findings

3.4 Student expectations and requirements: project proposal, papers, National Certification exam, progress reports, final project presentation

3.5 Tentative texts and course materials: NO TEXT

4. Resources:

4.1 Library resources: See attached form

4.2 Computer resources: Current resources within AMS Department are adequate

5. Budget implications:

5.1 Proposed method of staffing: AMS 490E will replace AMS 490 course in the Manufacturing Engineering Technology Program. AMS 490 has been taught for over 13 years as discipline specific course. The load will be similar to that which currently exists in the AMS Department.

5.2 Special equipment needed: Computer Integrated Manufacturing Lab EST room 107

5.3 Expendable materials needed: Material will include wood and aluminum for student projects

5.4 Laboratory materials needed: Material will include wood and aluminum for student projects

5.5

6. Proposed term for implementation: Spring 2018

7. Dates of prior committee approvals:

Architectural and Manufacturing Sciences Dept.	**3-3-2017**
OCSE College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 3-1-2017

Ogden College of Science and Engineering
Architectural and Manufacturing Sciences Department
Proposal to Create a New Course
(Action Item)

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

1. Identification of proposed course:

1.1 Course prefix (subject area) and number: AMS 490F
1.2 Course title: Senior Research for Technology Management
1.3 Abbreviated course title: Senior Research for Tech Mgt
1.4 Credit hours: 3 Variable credit - NO
1.5 Grade type: Standard Letter
1.6 Prerequisites: AMS 356 with a grade of "C" or better, AMS 390 with a grade of "C" or better, and consent of the instructor;
1.6.1 Pre or Co-requisites: AMS 396, AMS 394
1.7 Course description: Students work on capstone research projects utilizing skills and knowledge from prior courses in the Technology Management program. Projects performed when possible will be for a specific client or industry. This course will require an approved course proposal prior to being able to register.

2. Rationale:

2.1 Reason for developing the proposed course: As the AMS Department has become more diverse over the years, thus the need for more specialized skill sets for different disciplines has become obvious. Attaching specific prerequisite courses to discipline specific senior capstone coursework is intended to help the students be successful in the course.
2.2 Projected enrollment in the proposed course: 20
2.3 Relationship of the proposed course to courses now offered by the department: AMS 490 is currently offered in the AMS Department. This is the current senior research course, AMS 490F will be specifically for students in the Technology Management baccalaureate program.
2.4 Relationship of the proposed course to courses offered in other departments: Many Departments have Capstone courses in their departments and individual programs. These courses are specific to individual degree programs. This is the intent of AMS 490F to be specific to the Technology Management program.
2.5 Relationship of the proposed course to courses offered in other institutions: Most baccalaureate programs in technological areas require a capstone course of some variety prior to graduation.

3. Discussion of proposed course:

3.1 Schedule type: L—Lecture
3.2 Learning Outcomes:

- Students show technical competency in their area of expertise
- Supporting evidence (project) is professional

- Project manual is free of errors in content and grammar
- Presentation explains project clearly and concisely

3.3 Content outline:
- Project proposal approved
- Individual project goals vary depending upon project chosen by student
- Students work on projects in industry to accomplish goals
- Video presentations and Technical reports accomplished by students through semester
- Final project completed in period of the semester
- National Certification Exam attempted at completion of the course

3.4 Student expectations and requirements: project proposal, papers, National Certification exam, Video progress reports, final project as an artifact

3.5 Tentative texts and course materials: NO TEXT

4. Resources:

4.1 Library resources: See attached form

4.2 Computer resources: Students should be able to matriculate through this course with current access to computer resources on campus.

5. Budget implications:

5.1 Proposed method of staffing: AMS 490F will replace AMS 490 course in the Technology Management Program. AMS 490 has been taught for over 13 years as discipline specific course. The load will be similar to that which currently exists within the AMS Department.

5.2 Special equipment needed: none

5.3 Expendable materials needed: none

5.4 Laboratory materials needed: none

6. Proposed term for implementation:
Spring 2018

7. Dates of prior committee approvals:

Architectural and Manufacturing Sciences Dept.	**3-3-2017**
OCSE College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: March 1, 2017

Ogden College of Science and Engineering
Department of Engineering
Proposal to Create a New Course
Action Item

Contact Person: Dr. Farhad Ashrafzadeh, Email: Farhad.Ashrafzadeh@wku.edu, phone: 270-745-5877

1. Identification of proposed course:

1.1 Course prefix (subject area) and number: ENGR 360
1.2 Course title: *Modeling and Simulation of Dynamic Systems*
1.3 Abbreviated course title: *System Dynamics and Modeling*
1.4 Credit hours: 3 Variable credit (yes or no): no
1.5 Grade type: L (lecture)
1.6 Prerequisites: EE 210, and MATH 331
Co-requisite or Prerequisites: MATH 307 or MATH 370
1.7 Course description:
This course presents an introduction to mathematical modeling of dynamic systems. It takes a unified approach to linear system modeling with lumped parameters for various physical systems including electrical, electro-mechanical, and mechanical systems in both time and frequency domains. An introduction to system identification will be also presented.

2. Rationale:

2.1 Reason for developing the proposed course:
Analysis and simulation of dynamic systems are crucial to the design of engineering systems and their performances. A unified approach to system modeling will bridge various engineering disciplines and prepare more well-rounded system engineers.
2.2 Projected enrollment in the proposed course: 10 to 20 students (each offering)
2.3 Relationship of the proposed course to courses now offered by the department:
It provides a unified approach to most electrical and mechanical systems and serves as a foundation for a control systems course. It will also help prepare students for capstone design projects where a solid understanding of system dynamics is crucial to optimum performance.
2.4 Relationship of the proposed course to courses offered in other departments:
There are some courses at WKU which study the dynamics of various phenomena but their approaches to problem solving, their scopes and focuses are very different from those of this course. For instance, the course "METR 431 Dynamic Meteorology" at WKU is about Earth's troposphere focusing on basic governing equations of motion in the atmosphere and dry thermodynamics while the proposed course focuses on modeling of electrical, electro-mechanical, and mechanical systems.

2.5 Relationship of the proposed course to courses offered in other institutions:
- "ME 435 System Dynamics," Dept. of Mechanical Engineering, University of Louisville, KY

- "ME 587 - Dynamic Modeling and Simulation," University of Tennessee, Knoxville, TN
- "Modeling and Simulation of Dynamic Systems," MIT, MA
- "ME 33000: Modeling and Analysis of Dynamic Systems," Indiana University–Purdue University Indianapolis, IN
- "EGN 4432: Dynamic Systems," Florida State University (FSU), FL

3. Discussion of proposed course:

3.1 Schedule type: L: Lecture (three credit hours)

3.2 Learning Outcomes:

Upon completion of this course, a student will be able to

- explain the fundamental principles governing the dynamics of simple electrical, mechanical, and thermal systems
- model dynamic systems using mathematical and engineering principles
- create electro-mechanical equivalent models based on the force-current or force-voltage analogies
- solve linear differential equations by using Laplace transform methods and partial fraction expansions
- derive the state-space equations for a dynamic system whose linear ordinary differential equations are given
- simulate the operation of dynamic systems using computer simulation tools Matlab/Simulink

3.3 Content outline:

- Introduction to system dynamics, modeling, and simulation
- Introduction to Simulink
- Laplace Transform
- Physics-based modeling (electrical, mechanical, or thermal systems)
- Linear system analysis in time domain
- Linear system analysis in frequency domain
- Mathematical modeling of systems in state space
- Data-based modeling using system identification

3.4 Student expectations and requirements: Students' learning will be evaluated based on a variety of traditional assignments such as homework, quizzes, and tests. In addition to these, students will complete a modeling and simulation project using Simulink (or other multi-physics analytical software). Students' mastery of the skill of computer modeling will be evaluated by their performance in the course project.

3.5 Tentative texts and course materials:

- *System Dynamics* By: K. Ogata, currently in 4th edition, Pearson, 2004.
- *Modeling and Analysis of Dynamic Systems* by Charles Close, Dean Fredrick, and Johnson Newell, currently in 3rd edition, Wiley, 2002.

4. Resources:

4.1 Library resources: Current library resources are adequate for this course.

4.2 Computer resources: Analytical software "Matlab/Simulink" is already licensed by the Department of Engineering.

5. Budget implications:

5.1 Proposed method of staffing: This is a technical electrical course and it will be taught with existing staff.

5.2 Special equipment needed: not needed

5.3 Expendable materials needed: not needed

5.4 Laboratory materials needed: not needed

6. Proposed term for implementation:

Spring 2018

7. Dates of prior committee approvals:

Engineering Department	**2 March 2017**
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: March 3, 2017

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

Contact Person: Kelly Madole, Kelly.Madole@wku.edu, 5-6475

1. Identification of proposed course:

1.1 Course prefix (subject area) and number: PSYS 322
1.2 Course title: Laboratory in Developmental Psychology
1.3 Abbreviated course title: Lab in Developmental Psych
(maximum of 30 characters or spaces)
1.4 Credit hours: 1 Variable credit (yes or no) NO
1.5 Grade type: Letter Grade
1.6 Prerequisites/corequisites: Prerequisite: PSYS/PSY 210 with a grade of C or better, or permission of the instructor; Corequisite or Prerequisite: PSYS 321
1.7 Course description:

This course provides a laboratory-based introduction to research in developmental psychology. Students will learn about the unique research designs, methodologies, and ethical concerns related to conducting developmental psychology research. At the same time students will learn some of the major methods used by developmental psychologists through hands-on experience using a variety of research techniques.

2. Rationale:

2.1 Reason for developing the proposed course:

This course will ensure that our program is abreast with current developments in the field of psychology. The American Psychological Association is engaged in a strategic effort to increase psychology's status as a STEM discipline. A major tool in that effort is the inclusion of lab courses in the psychology curriculum. To truly understand psychology as a science, students need to experience some of the basic methodological tools used by research psychologists. This course will offer students the opportunity to experience those tools in one of the major sub-disciplines, Developmental Psychology, with a focus on the methods used to observe and measure behavior in children.

2.2 Projected enrollment in the proposed course: 15 students/ year

This projection is based on the number of students majoring in Psychological Science, especially those in the Developmental Science concentration. Because of the prerequisites and corequisites, we anticipate that few students outside of our major will enroll in this class. There may be a small number of Psychology majors who will be interested in enrolling

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

We currently offer PSYS 321 Child Developmental Psychology. However, this is a lecture-based course that provides little, if any, experiential access to the methods used by developmental psychology researchers. We also offer other lab courses (PSYS 211 Research Methods Lab, PSYS 362 Behavioral Neuroscience with Lab) but these courses do not teach students about the unique methodological challenges faced by developmental psychologists and they do not address some of the most commonly used methods in developmental psychology, such as observational coding.

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

Family and Consumer Sciences offers courses related to the methods used in Family and Consumer Sciences Education and on curriculum development, but these are focused on the teaching of Family and Consumer Sciences rather than on research. They also offer courses on the assessment of young children, but these assessments are for the purpose of instruction and guidance rather than for answering research questions.

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

A recent survey reported in the American Psychologist found that about 10-15% of institutions in the United States offer a Developmental Psychology lab course but this number is on the rise. This course will be very similar to ones offered at other institutions such as,

Laboratory in Child Development	Pitzer College
Laboratory in Social Development	Pitzer College
Laboratory in Developmental Psychology	University of Illinois at Chicago
Capstone Laboratory in Developmental Psychology	Indiana University-Purdue University
Laboratory in Developmental Psychology	UCLA
Laboratory in Developmental Psychology	New York University
Research Methods in Developmental Psychology	University of Maryland

Some institutions offer this content embedded within a traditional course in Child Developmental Psychology such as Northern Kentucky University's Child Development class. However, it is more difficult to ensure that research methods remain a focus when embedded in other content.

3. Discussion of proposed course:

3.1 Schedule type: Lab - B

3.2 Learning Outcomes:

Students who successfully complete this course should:

- Be able to develop a scientific hypothesis
- Know how to test scientific hypotheses using different research designs
- Understand the unique ethical concerns of working with children or older adults (e.g., evaluate whether children have assented to participate in a study)

- Understand the challenges of conducting research with children such as reactivity, perseveration, working memory limitations, and rapport
- Be able to create and use a simple coding system from operational definitions
- Objectively observe behavior using videotaped data
- Know how to conduct systematic observations in a naturalistic setting
- Understand and compute inter-rater reliability
- Recognize and limit experimenter and participant biases
- Be able to create and use semi-structured and structured interview formats
- Understand how validity is affect by research materials
- Be able to compute simple correlational and experimental statistical analyses

3.3 Content outline:

This is a sample outline. Specifics will vary depending on instructor.

1) Thinking like a researcher
   a) Developing hypotheses
   b) Making objective observations
   c) Systematic interviews
2) Ethics of research with different age groups
   a) Government standards
   b) Institutional standards
   c) APA standards
   d) Consent and assent
   e) Confidentiality
3) Methodological challenges of working with different age groups
   a) How do we know when a method is unsuccessful
   b) Strategies for cross-sectional research
4) Systematic observations in naturalistic settings
   a) Operational definitions
   b) Scan sampling
   c) Confounds
   d) Participant reactivity
5) Systematic observations in structured settings
   a) Establishing rapport
   b) Experimenter bias
   c) Operational definitions
   d) Demand characteristics
   e) Coding responses
   f) Inter-rater reliability
6) Coding linguistic data
   a) Developing coding categories
   b) Reactivity
7) Conducting structured interviews across age groups
   a) Building rapport
   b) Following protocols
   c) Coding responses
   d) Inter-rater reliability
   e) Simple data analyses
8) Conducting semi-structured interviews

a) Validity
b) Research challenges
c) Coding interviews
d) Coding questionnaires

9) Coding verbal and gestural behaviors
   a) Coding verbal protocols
   b) Coding gestures
10) Coding emotional behaviors
   a) Facial expression
   b) Body language
   c) Vocal tone
11) Working with infants
   a) Habituation
   b) Preference technique
   c) Coding manual behaviors
   d) Age-appropriate data collection

3.4 Student expectations and requirements:

Students will completely weekly lab notebooks documenting lab activities as well as brief reflection papers completed outside of class.

3.5 Tentative texts and course materials:

The Developmental Science Virtual Lab Series
Gottfried, G.M. (2008). *Developmental Science: A Laboratory Manual* DevSciLabs.com
Shaffer, D. R. & Kipp, K. (2014). *Developmental psychology: Childhood and adolescence, 9th ed.* Belmont, CA: Wadsworth/Cengage Learning.

4. Resources:

4.1 Library resources: None
4.2 Computer resources: Class will be conducted in an existing computer teaching lab

5. Budget implications:

5.1 Proposed method of staffing: Current faculty will staff course along with graduate assistant lab instructors
5.2 Special equipment needed: None
5.3 Expendable materials needed: None
5.4 Laboratory materials needed: None

6. Proposed term for implementation:

Spring 2018

7. Dates of prior committee approvals:

Department of Psychological Sciences **March 3, 2017**

Ogden College Curriculum Committee

Undergraduate Curriculum Committee _____

University Senate _____

Proposal Date: March 3, 2017

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

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

1. Identification of proposed course:

1.1 Course prefix (subject area) and number: PSYS 334
1.2 Course title: Laboratory in Cognition
1.3 Abbreviated course title: LAB IN COGNITION
(maximum of 30 characters or spaces)
1.4 Credit hours: 1 Variable credit: no
1.5 Grade type: letter grade
1.6 Prerequisites/corequisites: Prerequisite: PSYS/PSY 210 with a grade of C or better, or permission of the instructor; Corequisite or Prerequisite: PSYS 333
1.7 Course description: Laboratory emphasizing experimental design and data collection in cognitive psychology.

2. Rationale:

2.1 Reason for developing the proposed course:
Laboratory courses provide students with important hands-on experiences within their discipline of interest. Within the field of cognitive psychology, experimental design and implementation are key components to asking and answering research questions. This course will give students experience in the development of psychological research within cognitive psychology, including techniques for developing, and presenting stimuli, measuring responses, organizing and analyzing data, and communication of findings.

2.2 Projected enrollment in the proposed course: 15 per semester

2.3 Relationship of the proposed course to courses now offered by the department:
PSYS 211, Research Methods Laboratory, is currently offered by the Department of Psychological Sciences and focuses on providing students with a broad exposure to techniques for collecting data within psychological science and is a co-requisite for PSYS 210, Research Methods. The proposed course offers greater depth to students in the discipline of cognitive psychology, much like PSYS 362 Behavioral Neuroscience with Lab offers students greater depth in neurophysiological methods. PSYS 333 Cognitive Psychology is a lecture course offered by the Department of Psychological Sciences. A wide variety of research methods as related to theory development in cognitive psychology are discussed in PSYS 333. The proposed laboratory course will complement PSYS 333 through hands-on research experiences that illustrate these methods.

2.4 Relationship of the proposed course to courses offered in other departments:
PSY 210 and PSY 211, offered by the Department of Psychology, are equivalent to PSYS 210 and 211. Please see the above description for the relationship between PSYS 334 and PSY 210/211. The Department of Psychology offers PSY

436, Applied Cognitive Psychology, which focuses on the application of cognitive psychology research to real-world concerns. PSYS 334 differs from PSY 436 in that PSYS 334 is focused on teaching students about the research designs and data collection techniques that cognitive psychologists use to develop and evaluate cognitive theories and add to the knowledge base in the field.

2.5 Relationship of the proposed course to courses offered in other institutions:
A number of our benchmark institutions as well as other institutions in Kentucky offer a laboratory in cognitive psychology.

University	Course Number	Name	Credits	Notes
Eastern Kentucky University	PSY 317L	Cognitive Psychology with Lab	4	PSY 317 is same course without lab component and is 3 credits
Northern Kentucky University	PSY 338L	Cognitive Processes Laboratory	2	Offered in conjunction with PSY 338 Cognitive Processes
University of Kentucky	PSY 427	Cognitive Processes	4	Lecture and lab taken after an overview course in learning and cognition
Appalachian State University	PSY 4217	Cognitive Psychology Laboratory	1	Offered in conjunction with PSY 3217 Cognitive Processes
Bowling Green State University	PSYC 3210	Cognitive Psychology I: Learning and Memory	4	Lecture meetings for 2.5 hours per week and lab meets for 1 hour and 50 minutes per week
	PSYC 3220	Cognitive Psychology II: Thinking and Problem Solving	4	Lecture meetings for 2.5 hours per week and lab meets for 1 hour and 50 minutes per week
Florida Atlantic University	EXP 4934C	Cognition Laboratory	3	Lab course completed after a survey course on cognitive psychology
James Madison University	PSYC 493	Laboratory in Psychology	3	Lab course with topic defined by faculty member teaching the course
Middle Tennessee State University	PSY 4140	Laboratory in Psychology	1	Lab course in cognitive psychology offered as co-requisite with lecture course
Northern Illinois University	PSYC 412	Experimental Psychology: Human Learning and Memory	4	Lab course completed after a survey course on cognitive psychology
University of North Carolina Greensboro	PSY 442L	Behavioral Approaches to Complex Human Behavior with Laboratory	4	Lecture and lab course completed after statistics course

3. Discussion of proposed course:

3.1 Schedule type: B - Lab

3.2 Learning Outcomes:

- Identify experimental design techniques used to address research questions within cognitive psychology
- Investigate theories that underlie cognitive processes explored in laboratories
- Develop databases for response data collected during laboratory experiments
- Learn and apply principles of data filtering and aggregation in relation to the data collected within the laboratory
- Analyze data for laboratory experiments
- Communicate findings in both oral and written formats

3.3 Content outline:

- Experimental design, including experimental control
- Cognitive Processes
  - Attention/Inhibition
  - Memory
  - Imagery
  - Concept Formation
  - Decision Making
- Data collection and data analytic techniques within cognitive psychology, including use of stimulus presentation and data collection software (e.g. SuperLab, E-Prime) and data analysis software (e.g., SPSS)
- Writing lab reports in APA format
- Techniques for presenting succinct oral presentations

3.4 Student expectations and requirements:

Students will complete a number of experiments within cognitive psychology using stimulus presentation and data collection software. Students will complete activities, quizzes, and tests over content. Students will present their findings in both oral and written format.

3.5 Tentative texts and course materials:

American Psychological Association. (2009). *Publication Manual of the American Psychological Association, 6th ed.* Washington, DC: APA.

American Psychological Association. (2010). *Concise Rules of Style, 6th ed.* Washington, DC: APA.

Francis, G., & Neath, I. (2015). *CogLab 5, 5th ed.* Belmont, CA: Cengage.

Goldstein, B. (2015). *Cognitive psychology: Connecting mind, research, and everyday experience, 4th edition.* Belmont, CA: Wadsworth/Cengage Publishing Company.

Kellogg, R. T. (2015). *Fundamentals of Cognitive Psychology, 3rd ed.* Los Angeles: Sage.

Psychology Software Tools, Inc. (2015) *PsychMate*. Pittsburgh: PSTnet.com

Spape, M., van Steenbergen, H., Verdonschot, R., van Dantzig, S. (2014). *The E-Primer: An Introduction to Creating Psychological Experiments in E-Prime.* The Netherlands: Leiden University Press.

4. Resources:

4.1 Library resources: Existing resources are adequate.

4.2 Computer resources: Students will use existing computer classroom on campus for course to have access to software for experiments and for data analytics. Online experiment materials could also be used.

5. Budget implications:

5.1 Proposed method of staffing: Existing resources are adequate.
5.2 Special equipment needed: No special equipment needed.
5.3 Expendable materials needed: No special equipment needed.
5.4 Laboratory materials needed: Course fee will be requested for any necessary supporting lab materials.

6. Proposed term for implementation: Spring 2018

7. Dates of prior committee approvals:

Department of Psychological Sciences	**March 3, 2017**
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: March 3, 2017

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: 37-49 hours

2. Identification of the proposed program changes:

- Addition of lab course requirement: one course with lab or with lecture/lab designation in schedule type at 300-level or above.
- Increases required number of credits for program from 37-49 to 38-50.
- Update custom concentration to improve clarity

3. Detailed program description:

Current Program:	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	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~~ **38** credit hours and a minor or second major is required. The second option requires a minimum of ~~49~~ **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 Bases of Behavior and Mental Processes, Research Methods and Statistics, and Integrative Science in Psychology.

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 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. *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: 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, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490	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 ~~37~~**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 ~~49~~**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 ~~49~~**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*** **Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.**

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 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, perceptual, and personality growth of humans throughout the lifespan.

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.

Cognitive Psychology. This concentration emphasizes the scientific study of mental

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.

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.

Quantitative Psychology. This concentration focuses on the use of advanced data manipulation and statistical analysis techniques within 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.

Core Courses
PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 331 or PSYS 333,

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. *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* 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.	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. ***Laboratory Experience*** **Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.** ~~*Custom*~~ ***General*** *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. ***Laboratory Experience*** **Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.** 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. *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* 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. ***Laboratory Experience*** **Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.**

(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 revision will require that students complete at least one topical PSYS laboratory or lecture/laboratory course at the 300-level or above. The major in psychological science was developed to be consistent with the guidelines of the American Psychological Association for majors in the discipline. Both the American Psychological Association and the Association for Psychological Science are engaged in a strategic effort to increase psychology's status as a STEM discipline. One recommendation to support this effort is to create hands-on, experiential learning opportunities in which students become more engaged in designing research, operationalizing variables, data collection and analysis, and the scientific reporting of findings. The topical laboratory experiences provided in the BS program will give all majors experiential learning opportunities in which they focus on how psychological scientists in specific areas of the field study the mind using behavioral and neurophysiological measures. Laboratory experiences support the development of methodological skills in our majors. Participation in experiential based learning in a laboratory course has been found to be positively related to graduate school admission, to performance on standardized testing of discipline-specific content, and to self-reported student satisfaction with their undergraduate psychology program (Stoloff, Curtis, Rodgers, Brewster, & McCarthy, 2012; doi: 10.1177/0098628312437721). The proposed revision also updates the custom concentration by describing it as general to reflect that the concentration does not meet the requirements of the other concentrations but should be viewed as relevant to education in psychological science. Incoming freshmen will be entered into this concentration by default so that they can received advising from faculty about their concentration choice.

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

6. Dates of prior committee approvals:

Department of Psychological Sciences	**March 7, 2017**
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	