MEMORANDUM TO: Ogden College of Science and Engineering Curriculum Committee

Dr. Katie Algeo
Dr. Melanie Autin
Dr. Doug Harper
Dr. Phil Lienesch
Dr. Jeremy Maddox
Dr. Andy Mienaltowski
Dr. Les Pesterfield
Dr. Huanjing Wang
Dr. Todd Willian

FROM: Kenneth Crawford, Chair

SUBJECT: Agenda for Thursday, September 7, 2017 4:00 p.m. in COHH 4123

A. OLD BUSINESS:

I. Consideration of the minutes of the March 30, 2017 meeting.

B. NEW BUSINESS:

Information Items

Department of Psychological Sciences

I. Colonnade Connections Course Proposal, Systems Subcategory
   a. PSYS 482: Psychology of Sexuality, 3 hrs.

Consent Items

Department of Chemistry

I. Proposal to Suspend a Course
   a. CHEM 102, Introduction to Chemistry Laboratory, 1 hr.
   b. CHEM 240, Introduction to Organic Chemistry, 3 hrs.

II. Proposal to Revise a Program
   a. Ref. 340, Minor in Coal Chemistry, 20-22 hrs.

Department of Mathematics

I. Proposal to Revise Course Prerequisites/Corequisites
   a. MATH 307, Introduction to Linear Algebra, 3 hrs.
   b. MATH 405, Numerical Analysis I, 3 hrs.
   c. MATH 421, Problem Solving for Secondary Teachers, 3 hrs.
   d. MATH 423, Geometry II, 3 hrs.

School of Engineering & Applied Sciences

I. Proposal to Delete a Course
   a. CE 331, UK-Transportation Engineering, 3 hrs.
   b. CE 341, UK-Fluid Thermal Science, 3 hrs.
   c. CE 351, UK-Introduction to Environmental Science, 3 hrs.
   d. CE 373, UK-Structural Analysis, 3 hrs.
   e. CE 483, UK-Elementary Structural Design, 3 hrs.

II. Proposal to Revise Course Catalog Listing
    a. CS 360, Software Engineering I, 3 hrs.

III. Proposal to Revise Course Prerequisites/Corequisites
    a. CS 405, Numerical Analysis I, 3 hrs.
    b. EM 303, Mechanics of Deformable Solids, 3 hrs.
    c. EM 313, Dynamics, 3 hrs.
    d. ME 176, Mechanical Engineering Freshman Design, 1 hr.
    e. ME 200, Sophomore Design, 3 hrs.
    f. ME 240, Materials and Methods of Manufacturing, 3 hrs.
    g. ME 241, Materials and Methods of Manufacturing Laboratory, 1 hr.
    h. ME 300, Junior Design, 3 hrs.
    i. ME 310, Engineering Instrumentation and Experimentation, 3 hrs.
    j. ME 325, Heat Transfer, 3 hrs.
    k. ME 330, Fluid Mechanics, 3 hrs.
    l. ME 332, Fluid Mechanics Laboratory, 1 hr.
    m. ME 333, Heat Transfer Lab, 1 hr.
    n. ME 344, Mechanical Design, 3 hrs.

Dean's Offices, OCSE & PCAL

I. Proposal to Revise Course Prerequisites/Corequisites
    a. BDAS 495, Brewing and Distilling Arts & Sciences, 3 hrs.

Action Items

Department of Biology

I. Proposal to Create a New Course
    a. BIOL 388, Contemporary Issues in Biotechnology, 1 hr.

II. Proposal to Revise a Program
    a. Ref. 714, Major in Investigative Biotechnology, 48 hrs.

Department of Psychological Sciences

I. Proposal to Create a New Course
    a. PSYS 425, Developmental Psychopathology, 3 hrs.
    b. PSYS 442, Psychology of Suicide and Self-Injury, 3 hrs.

School of Engineering & Applied Sciences

I. Proposal to Create a New Course
    a. CS 372, Mobile App Development, 3 hrs.
    b. ENGR 490, Senior Seminar, 2 hrs.
    c. ENGR 491, Senior Project, 3 hrs.

II. Proposal to Revise a Program
    a. Ref. 518, Architectural Science, 89 hrs.
    b. Ref. 534, 537, & 543, Pre-major to Engineering, 22 hrs.
    c. Ref. 534P, Civil Engineering-Prep, 38 or 39 hrs.
    d. Ref. 534, Civil Engineering, 130 hrs.
    e. Ref. 537, Electrical Engineering, 57 hrs.
    f. Ref. 543, Mechanical Engineering, 122.5 or 123.5 hrs.

C. **OTHER BUSINESS**

Update Curriculum Committee, OCSE, Standing Rules

Minutes – OCSE Curriculum Committee **March 30, 2017**

MEMBERS PRESENT:

Dr. Todd Willian
Dr. Bryan Reaka for Douglas Chelson
Dr. Huanjing Wang
Dr. Warren Campbell
Dr. Xingang Fan
Dr. Melanie Autin
Dr. Doug Harper
Dr. Andy Mienaltowski

FROM: Ken Crawford, Chair

OLD BUSINESS:

Campbell/Autin moved for approval of the minutes of the March 2nd meeting. Motion passed.

NEW BUSINESS:

Consent Agenda

Campbell/Autin moved to approve the Department of Agriculture Consent Items. Motion passed.

Action Agenda

Department of Agriculture

Reaka/Campbell moved to bundle Proposals to Create a New Course: ANSC 130 & ANSC 131. Motion passed. Campbell/Autin moved to approve bundled proposals. Motion passed with friendly amendment.

Campbell/Autin moved to approve Proposal to Revise a Program: Ref. 508, Major in Agriculture. Motion passed with friendly amendment.

Department of Architectural Manufacturing Sciences

Warren/Reaka moved to bundle Proposals to Create a New Course: AMS 490A, 490B, 490E, and 490F. Warren/Reaka moved to approve bundled proposals. Motion passed with friendly amendment.

Department of Engineering

Autin/Campbell moved to approve Proposal to Create a New Course: ENGR 360. Motion passed with friendly amendment.

Department of Psychological Sciences

Mienaltowski/Reaka moved to bundle Proposals to Create a New Course: PSYS 322 and PSYS 334. Mienaltowski/Reaka moved to approve bundled proposals. Motion passed with friendly amendment.

Mienaltowski/Campbell moved to approve Proposal to Revise a Program: Ref. 747, Major in Psychological Sciences. Motion passed with friendly amendment.

OTHER BUSINESS:

None.

Adjourned 4:22pm

Colonnade Connections Course Proposal
Systems Subcategory

Proposal Contact Name, E-mail, and Phone:
Lance Hahn, lance.hahn@wku.edu, 745-6314
College and Department:
Ogden; Psychological Sciences

Proposal Date: 8/16/2017

1. Course Details:

1.1 Course prefix (subject area), number and title: PSYS 482: Psychology of Sexuality
1.2 Credit hours: 03
1.3 Prerequisites[1]: PSYS 100 / PSY 100 or PSYS 220 / PSY 220
1.4 Crosslisted and/or equivalent courses (prefix and number): N/A
1.5 Expected number of sections offered each year: 1; 2 if sufficient demand
1.6 Is this an existing course or a new course? existing course
1.7 Where will this course be offered? Bowling Green main campus, Owensboro, Glasgow

2. Provide a brief course description (100-200 words).

This course examines sexuality from a broad range of perspectives that include systems at several different levels of analysis. Relevant systems range from the cellular level to the cultural level of analysis. Chromosomes go through crossover and mutation to form the genetic basis for a new organism that includes a human's biological sex. The hypothalamic–pituitary–gonadal axis provides a neuron-gland circuit that controls sex hormone levels and sexual interest. Sexual arousal can be labeled as natural or unnatural and this labeling impacts the individual's view of self and sexual behavior. Cultural and religious expectations and constraints provide a high-level system that impacts the views and individual has of sex. By considering the details of the several systems influencing sexual behavior, a student can learn that much of the mystery surrounding sexuality is due to the complex and diverse factors influencing sexual behavior.

3. Explain how this course provides a *capstone* learning experience for students in Colonnade (compared to an introductory learning experience). Explicitly address how students in the course apply knowledge from multiple disciplines to the significant issues challenging our individual and shared responsibility as global citizens.

Sexuality is influenced by a complex interwoven collection of systems that broadly influence human behavior. Students may enroll in this course with an understanding of some factors that impact behavior in general and sexual behavior in specific. However, a student's understanding of these factors is unlikely to have been applied to human sexual behavior. For example, the influence of genes and culture play substantial roles in many other human behaviors. Because sexuality is a taboo topic, when students learn about the factors influencing behavior in an introductory course they may not typically learn the link between the specific factor and sexual behavior. As a result, students often misapply the information to sexual behavior. An important aspect of this course is to address these common misapplications by clarifying the relationship between psychological concepts and sexual behavior. For example, the hormone testosterone is reasonably described in an introductory class as a hormone that is associated with

[1] Courses may require prerequisites only when those prerequisites are within the Colonnade Foundations and/or Explorations listing of courses.

masculine behaviors. High testosterone levels are associated with heightened aggressive behaviors and sexual behaviors. Students often incorrectly think of testosterone as only influencing male behavior and inappropriately apply this understanding of testosterone to male sexual orientation with the *false* idea that high testosterone levels are found in heterosexual men and low testosterone levels are found in homosexual men. In fact, high testosterone levels are associated with heightened sexual activity in both straight and gay men. Testosterone level does not appear to impact sexual orientation.

While an individual's specific hormones and physiology influence sexual responses, societal systems such as evolution and religion also play important roles in sexual behaviors. Students often enter the course with a narrow, simple view of how these societal systems impact sex. A common misapplication of these factors can again be provided using sexual orientation. Whether students adopt a particular religious belief or not, they commonly think that religious people uniformly condemn non-heterosexual sexual orientations. While this may be the view of some of the dominant religious views in our area, this course introduces students to the underappreciated range of religious views of sexual behaviors. Some religions embrace sexual behaviors, such as contraception or non-heterosexual behaviors, while others condemn them.

With regard to evolution, students often think of reproductive individuals and non-reproductive sexual orientations as being something that does not make evolutionary sense. They adopt the simple view that if someone does not produce offspring, then natural selection should be biased against this individual's genes being propagated. While this may be a rational application of evolutionary concepts for an introductory course, it is insufficient for this course. If natural selection is considered with the unit of analysis being the family unit rather than the individual, then non-reproductive family members are considered evolutionary adaptive because the contribute resources to the family without producing offspring who consume the resources. For instance, the presence of a wise grandmother or great aunt who is not producing offspring can measurably improve the likelihood that her young blood relatives will survive and reproduce. Similarly, having a gay uncle or a lesbian aunt can help a genetic relative be evolutionarily successful without producing offspring of their own that might compete for limited resources.

In this class we discuss many different factors and systems that impact sexual behavior. I also invite students to provide their own perspectives and experiences. In some cases, these perspectives reveal the diversity of experience that may surprise class members and in other cases it reveals a lack of diversity that highlights the constraints of our common culture. Consistently across semesters, students are more open to discussing sexual topics than one might expect of the general populous. This is an example of volunteer bias, because not all students would feel comfortable signing up for a class with sex as the primary topic. Volunteer bias is one of the challenges of research involving sexual behavior that we discuss because, as researchers, we want to understand behavior of all humans rather than just those that volunteer to participate in a study. As global citizens it is important that we recognize the nature of our culture and how it may introduce differences across the globe.

An additional methodological and analytic consideration for sexual behavior research is how to best approach a research question in a way that will produce a clear and accurate answer. Research focusing on a taboo topic of sexual behavior has unique challenges that require thoughtful approaches. For example, when behaviors of a sexual minority are being studied, it is important to include members of that group in constructing the questions and, if possible, administering the questionnaire. While confidentiality and anonymity are typically part of psychological studies, within the current context these concepts are critical to understanding behavior. As researchers interested in the typical behavior of a broad range of global citizens, it is important to be sensitive to participant viewpoints and determine ways to acquire research answers that minimize biases that can render results inaccurate and irrelevant.

An introductory psychology course is likely to provide a survey of several components of behavior but may not always show a cohesive integration of the different components into a system. One benefit of this systems-style course is that it reviews the different components but also helps students put these components together to form a coherent system. For example, students may learn about genes, chromosomes, inheritance, and behavior in other courses, but in this course each of these components is clearly linked to the other components to form a cohesive system.

4. List the *course goals* (see Glossary of Terms), and explain how are they aligned with the Connections student learning outcomes. In the table below, describe in the right-hand column explicitly how the course meets each Connections SLO for the Systems subcategory. Descriptions in the right-hand column should be consistent with statements listing of course activities, readings, etc. in the syllabus attached to this application.

Connections Student Learning Outcomes	**How does the course meet these learning outcomes? (Align course goals to Connections SLOs)**
Example: Analyze how systems evolve.	*Example: Students analyze both the development and evolution of the mental system within an individual (e.g., (i) the utilization of various mental and sensori-motor components in an individual's development of a theory of mind and a capacity for joint attention, and (ii) causal and historical conditions of reference of singular terms and their neural realizers in an individual's cognitive system) as well as the essential role that causal history plays in the development across individuals of mental states with propositional contents (e.g., how the evolution of syntactic processing in humans' mental system can account for conditions of veridical representation of one's environment).*
1. Analyze how systems evolve.	Our course literally includes the description of evolution across different levels of analysis. Upon completion of the course, the student will be able to differentiate between the different analytic levels, but also explain how changes in one level of analysis impact other levels of analysis. At the genetic level of analysis, changes may be small, but a small genetic change can produce measurable changes at the behavioral level of analysis. Physical and behavioral changes with age provide another example of an evolving *individual* within a socio-cultural context. Students will leave this course able to describe physical development of the genitals and characterize psychological changes such as the acquisition of gender categorization and gender roles.
2. Compare the study of individual components to the analysis of entire systems.	One basic behavioral process that is helpful in understanding a range of different behavioral systems is simple associative learning. Also called classical conditioning or Pavlovian conditioning, the creation of new associations between a neutral and a conditioned response is important for understanding, gender role acquisition, gender-specific marketing, pair-bonding and media fetishes. Naturally, associative learning is one of several components in the system and, for different systems, there are also has competing theories.

	Another example of a basic process that influences a variety of systems is testosterone level. Testosterone is just one of many hormones and can influence several systems ranging from physical maturation to sexual behavior. Students completing this course can identify individual elements such has associative learning and testosterone, how they differ from related processes and how they contribute to a number of systems.
3. Evaluate how system-level thinking informs decision-making, public policy, and/or the sustainability of the system itself.	Decision-making and public policy are an intentional part of several class debate assignments. The debate topics include age-of-consent laws (lower the age vs. raise the age), art-can-be-sexist (punish a man who in the workplace, wears a shirt depicting scantily clad women or don't punish the man because it is art), legalization of prostitution (legalize or not). In each debate, two student teams demonstrate knowledge of the topic and argue their assigned position regarding a law or policy rule. System-level thinking is at the core of each of these debates with a main focus on balancing the desires of an individual with the desires of the system. A young adult may want to have sex with a younger person who the state has determined is not old enough to provide consent. A man may present what he considers to be art in the workplace but the impact of the art may disrupt the business and make the workplace hostile. A person may want to make money by engaging in sex, but this may make themselves or other sex workers vulnerable to injury. Naturally, consideration of each of these example topics requires students to think about the range of rules and expectations at a system-level.

5. List additional student learning outcomes, beyond the three Connections SLOs, that will guide student learning in this course (if any).

Additional learning outcomes included in the course are:

Identify and differentiate the sexual anatomy for biological males and females.

Understand different types of contraception and how they interrupt the reproductive process.

Appreciate and are able to describe the gender differences that typically occur due to biological processes and environmental processes.

Understand some of the challenges of conducting research on sex-related topics and can articulate some of the research approaches used to overcome or minimize the challenges.

Are aware of and can describe the broad diversity of sexual behaviors and views of sexual behaviors.

Can describe different ways that abnormal and normal behaviors are differentiated.

6a. Explain how the department plans to assess each of the Connections student learning outcomes *beyond course grades*. Applicants are encouraged, but not required, to adopt or adapt the Connections Student Learning Outcomes rubric (available on the Colonnade website). Note: SACSCOC requires assessment of SLOs to compare Bowling Green campus, online, and regional campus learning

experiences; some consideration of such a distinction must be included in the right-hand column, when applicable.

Connections Student Learning Outcomes	**Identify the "artifact(s)" (assignments, papers, activities, etc) that will be used for assessing each learning outcome *beyond course grades*. Applicants must be explicit in describing how the artifact(s) provides evidence of student learning for each Connections SLO.**	**Describe in detail the assessment methods the department will employ for this Connections course. Assessment plans must produce a *separate evaluative rating* for each Connections SLO.**
Example: Analyze how systems evolve.	*Example: The department will use several questions, added to the final exam, in order to assess how well the course's learning outcomes are being met. Each question will correspond to a separate Connections Student Learning Outcome for the Systems Subcategory.*	*Example: At the end of each semester the final exam answers of 30% of the students in the course will be selected at random for assessment. Each answer will correspond to one of the three Colonnade Student Learning Outcomes. At the beginning of the next semester a faculty member will assess each answer using the attached rubric. The names of the students and of the instructor will be eliminated before the assessment takes place. Assessment results will be communicated to the Department Head, who will then follow up with the faculty who teach the course and the department.*
1. Analyze how systems evolve.	Questions about evolution and development will be included in the regular exams.	The student scores for the relevant questions will be recorded. The average students should score 60% or higher for these questions. The questions used for this assessment will be shared with the instructor(s) teaching this course at regional campuses.
2. Compare the study of individual components to the analysis of entire systems.	Questions about basic processes such as associative learning and testosterone levels will be included in the regular exams.	The student scores for the relevant questions will be recorded. The average students should score 60% or higher for these questions. The questions used for this assessment will be shared with the instructor(s) teaching this course at regional campuses.
3. Evaluate how system-level thinking	As part of the debate activity, students will articulate	Papers from 20% of the class will be sampled. At least 50% of the student

informs decision-making, public policy, and/or the sustainability of the system itself.	arguments that support and that contradict their policy position.	papers should include descriptive arguments that support more than one viewpoint on the assigned topic. The rubric used for this assessment will be shared with the instructor(s) teaching this course at regional campuses.

6b. Include the rubric that will be used for Connections assessment (either in the space below or as an attachment). If the assessment plan will utilize the Connections rubric available on the Colonnade website, state as much.

	1. EXCELLENT	2. GOOD	3. NEEDS WORK	4. POOR
1. Analyze how systems evolve	Correctly answers multiple-choice question.			Incorrectly answers multiple-choice question.
2. Compare the study of individual components to the analysis of entire systems.	Correctly answers multiple-choice question.			Incorrectly answers multiple-choice question.
3. Evaluate how system-level thinking informs decision-making, public policy, and/or the sustainability of the system itself	Provides several system-level arguments that support more than one viewpoint on the topic assigned.	Provides only a single system-level argument that support more than one viewpoint on the topic assigned.	Provides system-level arguments that support only one viewpoint on the topic assigned.	Does not consider system-level arguments but only opinions regarding the assigned topic.

7. Evidence & Argument Artifact. As the capstone experience for the Colonnade Program, Connections courses are expected to include activities, assignments, or other learning experiences that will produce at least one "artifact" (research paper, presentation, major project, etc.) that can be used to evaluate students' ability to identify, synthesize, and make use of evidence in support of cogent and persuasive arguments. What "artifact" in the proposed course could be used for this purpose? (Note: This could be, but is not required to be, the same "artifact" identified in 6a above.)

The paper assignment that is described in 6a can be used to evaluate students' ability to make use of evidence to support their persuasive arguments.

8. Attach a sample course syllabus. The course syllabus must contain the three Connections student learning outcomes for the subcategory as well as any additional student learning outcomes listed in this application, and those learning outcomes must appear in every section's syllabus.

PSYS 482: Psychology of Sexuality

MWF 1:50-2:45

Gary Ransdell Hall 2064

Professor: Dr. Lance W. Hahn **Office:** 3033 Gary Ransdell Hall **Phone:** 745-6314 **Office Hours:** MWF 11:15-12:15, 1:35-2:30 By appointment **E-mail:** Lance.Hahn@wku.edu	**Course Description** *Prerequisites*: PSYS 100 or PSYS 220 (PSY 100 or PSY 220 are ok) Explores psychological, social, emotional, spiritual and cultural aspects of sexuality including sexual development across the life span, consensual and coercive sexual behavior, sex and gender, sexual orientation, sexuality and religious traditions, and sexuality education.

Course Objectives

This course covers a range of topics within the context of sexuality. Because sex is a basic biological process, we will discuss genetic, anatomical and physiological factors that impact sexual behavior. Because sexual behavior is influenced by psychological factors, we will discuss learning and cognitive factors that impact sexual behavior. Because sexual behavior and identity are formed within a social context, we will discuss familial, social and cultural factors that impact sexual behavior.

As a Connections-Systems course in WKU's Colonnade Plan, this course will guide students to reach the following learning objectives:

- Analyze how systems evolve
- Compare the study of individual components to the analysis of entire systems
- Evaluate how system-level thinking informs decision-making, public policy, and/or the sustainability of the system itself

Additional learning outcomes included in the course are:

- Identify and differentiate the sexual anatomy for biological males and females.
- Understand different types of contraception and how they interrupt the reproductive process.
- Appreciate and describe the gender differences that typically occur due to biological processes and environmental processes.
- Understand some of the challenges of conducting research on sex-related topics and articulate some of the research approaches used to overcome or minimize the challenges.
- Be aware of and describe the broad diversity of sexual behaviors and views of sexual behaviors.
- Describe different ways that abnormal and normal behaviors are differentiated.

Required Text

Hyde, J. S. and DeLamater, J. D. (2013) Understanding Human Sexuality, 12th edition. McGraw-Hill Higher Education

Required Technology

Tophat (4 Month Access Code) ISBN: 9780986615108

This is a cell-phone or laptop based "clicker" technology that will allow you to respond to questions in class. It will be used for class activities and quizzes.

Suggested Text

Publication Manual of the American Psychological Association, 6th. Edition. (2010). Washington, DC: American Psychological Association. **Second Printing**.

Examinations (best 4 out of 5 exams with each exam worth 100 points)

There will be four exams and a final exam. The four exams and the final exam will cover material from both the book and the lectures. They will be composed of some multiple-choice questions and short answer questions.

Only four of the five exams will count towards your grade. The exam with your lowest score will be dropped. If you choose not to take one exam, then this will be the dropped exam. The wisest strategy is to take all five exams and drop the lowest score. The final exam will cover the whole semester.

Make-up exams will only be given on one day at the end of the semester. Each student can only take one make-up exam and the final exam may not be taken as a make-up exam. If you miss a second exam, you will need to take the final to replace the first missed exam. Make-up exams will not be curved and will not be the same as the original exams.

Frequent Quizzes (best 8 out of 10 quizzes with each quiz worth 10 points)

There will be a short quiz about every week. There will only be 10 short quizzes. Each quiz will be composed of multiple-choice questions covering the material being discussed on the day of the quiz and the material covered since the previous quiz. Note that the quiz may include questions from the chapter that have not been discussed in class. Only the best 8 quiz scores will be counted towards your final grade. No make-up quizzes will be given except for university-sponsored activities that a student has notified me of in advance of the quiz.

Paper (Writing Component)

Developing the ability to write is an integral component of your education. To facilitate this development, every 300- and 400-level Psychology course is required to have a significant writing assignment. In this class, each student is required to write a paper in which the student reviews and discusses a nonfiction book related to the psychology of sexuality. A list of books will be provided at the beginning of the semester. You may choose a book not on my list with my approval. The assignment requirements are broken down into two stages: a cover page and a book report.

Each stage is associated with a due date listed in the *Schedule* section of the syllabus. Further details will be provided in class handouts or on the class Blackboard web site.

Class Debate and Paper

This course will include 6 debate activities during regularly scheduled class times. Each student will argue in support of one position in one of the debates.

In addition to leading the activity, each student will write a short paper describing the debate topic and the arguments supporting both positions.

Handouts describing these activities and the expectations for the debate papers will be provided in class or on Blackboard. The papers will be due one week after the scheduled debate.

Extra Credit

There will be four opportunities for extra credit. All written extra credit must be emailed with your name, at the top of the first page. Note, that neatness **does** count. By

doing the extra credit you can substantially increase your final grade. As a result, you should not expect a curve at the end of the semester. Take advantage of these opportunities to ensure that you get a good grade in this class! One objective of these extra credit assignments is to help current and future students learn the material by making your work available on the internet. If you do not want your work to be available on the internet, then you must let me know when you give me your assignment.

1. Lecture Notes (up to 10 points) - To reward good note-taking and to create a free set of lecture notes available on the internet, extra credit will be awarded to those who email notes for a lecture assigned to them. At the beginning of the semester, everyone will be assigned one day when notes can be taken for extra credit. If you e-mail a copy of the notes to me, you may receive up to 10 extra points. The class notes that are e-mailed to me will be put on the web will be accessible from the main class web page. In order to receive the extra credit, the notes must be emailed to me by the next lecture.

These notes should not be seen as a way to avoid attending class. There is no guarantee that a good set of notes will be available for any particular day. However, these notes are usually a good way of "filling out" your own notes. The online notes are likely to contain references to in-class discussions that will not make sense without attending. The notes put on the web *may* include errors. If you find contradictions between your notes and the web notes, please ask about this inconsistency in class.

2. Attend Lecture related to Sexual Behavior (up to 10 points) – Often there are opportunities on campus to attend lectures related to sexual behavior. You may earn extra credit by attending a lecture and turning in a single page description of what you learned by attending the lecture. Be sure to ask me if a lecture is appropriate for this class before attending the lecture for extra credit. This assignment must be turned in before the 4th exam.

3a. Sex in the media (up to 10 points) – Sexual topics are often presented in both scientific and mass media. You may earn extra credit by finding an article available on the web that is related to this course. Email a document that provides a link to the article, a paragraph describing the article, a paragraph describing the related topic in class and a page number from our textbook that covers this topic. Each article you summarize is worth 5 extra points. You may do this for at most 2 different articles and at least one of the articles must be a *research* article. Our textbook has a good list of research articles. Any article listed in the book would be appropriate for this extra credit assignment. This assignment must be turned in before the 4th exam.

3b. Study Board participation (up to 10 points) – An excellent way to become familiar with experimental psychology is to participate in research studies. Unless you took "Introduction to Psychology" someplace else, you have already had some exposure to research in the Psychology department. The departmental policy for research credits in this class is:

Research Credits

Students in this course can earn extra credit points through psychological research experiences. Students may earn credit by any of the following means, in any combination: 1) The student may volunteer to serve as a research participant in an approved study being conducted by Western Kentucky University Psychology or Psychological Sciences faculty or students. 2) The student may take quizzes over psychology research articles. This website http://www.wku.edu/psychological-sciences/studyboard/ handles all research scheduling and credit administration. Only credits for which you register online will count toward research credit.

Credits are earned accordingly. Each half hour (30 minutes) of research participation is worth one (1) credit. There are studies listed on the website with credits that vary from one to eight or more. Each satisfactory score on an article quiz is worth half (.5) of a credit. Your instructor will inform you how class credit will be assigned from the research credits earned.

Students interested in taking a quiz on an article can get details at the Study Board website (http://www.wku.edu/psychological-sciences/studyboard/). Complete information about research participation, research credits, and the Study Board can be found at http://www.wku.edu/psychological-sciences/studyboard/

In order to acquire extra credit in this class you must also fill out an "Experiment Participation Form" that is available at the class website. You will need to take this form with you when you participate in an experiment. If you choose to write an article summary instead of participating in an experiment, you will still need to fill out this form. You may earn up to 4 credits through the Study Board. Participation in each study must be accompanied by an "Experiment Participation Form" and each Study Board credit is worth 2 points of extra credit with a limit of 8 extra credit points. An additional 2 points will be awarded to those who have earned this credit and not had any "no-shows".

Attendance

Attendance may be taken. Attendance will only contribute to your class grade if it is necessary to distinguish between an "F" grade and an "FN" grade. However, skipping classes is *very likely* to reduce your grade. Some topics covered in class may not be covered in the textbook and I will certainly highlight specific topics that are more likely to be on the exams.

Class Behavior

Please be respectful of your peers and of me. Bad behavior can distract those around you who are interested and trying to learn. I consider it part of my job to protect the student who is interested in the class from distracting bad behavior. Distracting behaviors include: eating, drinking, reading unrelated material, talking, text messaging, talking on a cell phone, using a laptop for activities unrelated to the class, arriving late or leaving early. If exceptional circumstances arise and you must arrive late or leave early please be seated near the door.

I will directly confront inappropriate behavior. If, after one warning, the inappropriate behavior continues, I will ask the student to leave the class for a week. If the student returns after a week and still behaves inappropriately, the student will be asked not to return. I have great respect for students who are trying to learn a topic that can be difficult and intend to ensure that the class environment allows students an opportunity to learn.

Note: The topics covered in this course have the potential to provoke a range of emotions. Although class discussions and questions are important, it is also important to respectfully listen to your peers even when you may passionately disagree with them.

Grading

Assignment	Possible Points
Paper – Cover Page	10
Paper – Book Report	55 (by 2nd exam), 50 (by 3rd exam) or 45 (by 4th exam)

Debate Paper & Debate	60	
Best 8 (of 10) quiz scores	80	
Best Exam Score	100	
+ 2nd Best Exam Score	100	**Required Credit**
+ 3rd Best Exam Score	100	
+ 4th Best Exam Score	100	Total: **600**
+ Lecture Notes Extra Credit	10	
+ Attend Sex Lecture	10	
+ Sex in the media or Experiment Participation	10	**Extra Credit** Total: **30**
= Total Possible Points	**630**	**630**

Due to federal privacy laws, grades will not be given out over the phone or via e-mail. See the above "Grading" Table and the "Converting Points to a Letter Grade" sections of the syllabus for a more complete breakdown of the points earned and how they are converted into a letter grade at the end of the semester.

In order to drop this class, you must go through normal university registration procedures rather than just not coming to class. If you stop coming to class **do not** assume that I will drop the class for you.

Converting Points to a Letter Grade

540+	**A**
480 – 539.99	**B**
420 – 479.99	**C**

360 – 419.99	**D**
0 – 359.99	**F**
0 – 359.99 score with less than 60% participation	**FN**

Late Policy

In the interest of being fair to all members of the class, **exceptions will not be made** to the syllabus.

Extra Credit assignments will receive no credit if they are turned in late.

Each of the writing assignments and the debate paper will be penalized 10% if it is turned in late, but not more than a week late. The book report will only be eligible for the full 55 points if it is turned in by the second exam. **If an assignment is more than a week late, it will not earn any credit.**

If you miss an exam for a university sponsored activity, you must arrange to take a make-up exam with me **before** the scheduled exam. If you miss an exam for any other reason, you may take a make-up exam at the end of the semester on the Wednesday morning during finals week (see the "Schedule" section of the syllabus). **You may only take one make-up exam**. If you miss a second exam, then it will be given a 0 and the final exam can be used to replace the 0. When two exams are missed, the earliest missed exam will be replaced by the final exam. There will not be any make-up quizzes unless the absence is due to a university sponsored activity and the student has made arrangements with me before the quiz.

Cheating and Fairness

Presenting unoriginal work as original work (i.e. copying answers from someone else's exam or handing in someone else's notes) will be considered academic dishonesty and will not be tolerated. Using any source other than your own mind to

answer exam questions will be considered academic dishonesty. Giving another student your answers in an exam setting will be considered academic dishonesty. Academic dishonesty in an exam setting will result in an F in the course.

Plagiarism, copying text and presenting it as your own work, is taken very seriously and is considered academic dishonesty. **The writing assignments *must be* your own writing.** Text taken from a paper or book **must** be quoted and attributed to the source. Plagiarism in any part of a writing assignment will result in a 0 for the writing assignment. When I encounter plagiarism on a paper, I immediately stop giving feedback on that assignment. **For all assignments, you should write in your own words or put the text in quotes with a citation.**

Similarly, the written parts of your extra credit assignments must be your own work. Academic dishonesty for any extra credit assignment will result in the loss of any past earned extra credit and you will not be able to earn any future extra credit.

The debate paper should be in your words and not written by the group leading the debate. If two students turn in debate papers with the same text, ***both*** students will be assumed to have plagiarized and be guilty of academic dishonesty.

Academic dishonesty in an exam setting will result in an F in the course. Academic dishonesty in a writing assignment will result in a 0 for the assignment. All incidences of academic dishonesty may be reported to the WKU Office of Student Life for University disciplinary sanctions.

Internet

General information about PSYS 482 and links to all other PSYS 482 web stuff can be found at the Blackboard web site for this course. You can access it at: http://ecourses.wku.edu/

Schedule

Below is a list of lecture topics, readings and exam dates. The readings and exam dates will not change. The assigned readings should be read by the specified date in order to get the most out of the lecture. The "Due" column lists some of the writing assignment due dates. The Lecture Notes extra credit is always due at the class meeting immediately following the lecture in which you take notes. If you take notes on Tuesday, then the notes are due on the following Thursday.

Date	Lecture Topic	Due	Reading
January M	Intro & Perspectives		Syllabus & Intro
W	Genes and Heredity		Chapter 2
F	Heredity and Evolution		
February M	Research/Science		Chapter 3
W	Research/Science		
F	Sexual Physiology		Chapter 4
M	Sexual Physiology		
W	Hormones	**Cover Page**	Chapter 5
F	Development		
M	**Exam #1**		**Chaps 2 - 5**
W	Pregnancy		Chapter 6
F	Birth		
M	**Debate**: Public Breastfeeding*		
W	Contraception		Chapter 7
F	Sexual Arousal		Chapter 8

March M	Sexual Arousal		
W	Lifespan: Childhood		Chapter 9
F	Lifespan: Adolescence		
	Spring Break		
M	**Debate:** Age of consent*		
W	**Exam #2**	**Book Report (55)**	**Chaps 6 - 9**
F	Lifespan: Adulthood		Chapter 10
M	Lifespan: Adulthood		
W	Attraction		Chapter 11
F	Attraction		
M	**Debate:** Sex & Commitment*		
April W	Gender		Chapter 12
F	Gender		
M	**Debate:** Gay Marriage*		
W	Sexual Orientation		Chapter 13
F	Sexual Orientation		
M	**Exam #3**	**Book Report (50)**	**Chaps 10 - 13**
W	**Debate:** Sex Education*		
F	Sex Education		
M	Sexual Variations		Chapter 14
W	Sexual Variations		
F	Sexual Coercion		Chapter 15
M	Sexual Coercion		
W	**Debate**: Pornography & Prostitution*		
May F	Sexual Disorders		Chapter 17
M	Sexual Therapy		
W	Religion & Ethical Sex		Chapter 19
F	**Exam #4**	**Book Report (45)**	**Chaps 14, 15, 17, 19**
	Final Exam		**Chaps 2 - 15, 17, 19**
	Make-up exams		

*Debate topics may change.

Student Disability Services

In compliance with university policy, students with disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Office for Student Disability Services in DUC A-200 of the Student Success Center in Downing University Center.

Please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from the Office for Student Disability Services.

Proposal Date: 04/20/2017

Ogden College of Science & Engineering
Department of Chemistry
Proposal to Suspend a Course
(Consent Item)

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

1. **Identification of course:**
   1.1 Current course prefix (subject area) and number: CHEM 102
   1.2 Course title: INTRODUCTION TO CHEMISTRY LABORATORY

2. **Rationale for the course suspension:**

   The Chemistry Department does not intend to offer this course again. CHEM 101 provides Colonnade NS and NL credit, and enrollments in CHEM 102 are down to 3 to 8 students per semester.

3. **Effect of course suspension on programs or other departments, if known:**

   None. Students may take CHEM 101 to satisfy Colonnade NS and NL credit.

4. **Proposed term for implementation:**

   First available.

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

Department of Chemistry	05/10/2017
Ogden College Curriculum Committee	
Colonnade Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 04/20/2017

Ogden College of Science & Engineering
Department of Chemistry
Proposal to Suspend a Course
(Consent Item)

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

1. **Identification of course:**
   1.1 Current course prefix (subject area) and number: CHEM 240
   1.2 Course title: INTRODUCTION TO ORGANIC CHEMISTRY

2. **Rationale for the course suspension:**

   The course has only been offered once and the Department has no intention of offering it again.

3. **Effect of course suspension on programs or other departments, if known:**

   None

4. **Proposed term for implementation:**

   First available

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

Department of Chemistry	05/10/2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 04/20/2017

Ogden College of Science & Engineering
Department of Chemistry
Proposal to Suspend a Program
(Consent Item)

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

1. **Identification of program:**
   - 1.1 Program reference number: 340
   - 1.2 Program title: Minor in Coal Chemistry
   - 1.3 Credit hours: 20-22

2. **Rationale for the program suspension:**

   There are no students with this minor declared and the Department does not see any curricular value in continuing this program.

3. **Effect on current students or other departments, if known:**

   None. Students that are interested in pursuing minor studies in chemistry should declare the Minor in Chemistry (Ref. number 335).

4. **Proposed term for implementation:**

   First available

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

Department of Chemistry	8/16/2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: April 14, 2017

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

Contact Person: Tom Richmond, tom.richmond@wku.edu 270-745-6219

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: MATH 307
   - 1.2 Course title: Introduction to Linear Algebra
   - 1.3 Credit hours: 3.0

2. **Current prerequisites/corequisites/special requirements:**
   MATH 137 with a grade of "C" or better or MATH 136 with a grade of "A" or MATH 142 with a grade of "A".

3. **Proposed prerequisites/corequisites/special requirements:**
   MATH 137 with a grade of "C" or better or MATH 136 with a grade of "A" or MATH 142 with a grade of "A" or both MATH 136 and CS 221 with grades of "C" or better.

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   This change is in response to a request from the Computer Science faculty. It will allow their students who may not need MATH 137 to take MATH 307, which is more applicable to their discipline.

5. **Effect on completion of major/minor sequence:**
   There is no effect on completion of major/minor sequence

6. **Proposed term for implementation:**
   Spring 2018

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

Department of Mathematics	8/16/17
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: April 14, 2017

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

Contact Person: Tom Richmond, tom.richmond@wku.edu 270-745-6219

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: MATH 405
   - 1.2 Course title: Numerical Analysis I
   - 1.3 Credit hours: 3.0

2. **Current prerequisites/corequisites/special requirements:**
   MATH 237 or 307 or 310, and CS 180 or CS 146 all with grades of C or better.

3. **Proposed prerequisites/corequisites/special requirements:**
   MATH 137, and MATH 237 or MATH 307 or MATH 310, and CS 180 or CS 146, all with grades of "C" or better.

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   An accompanying proposal will eliminate MATH 137 as a required prerequisite for MATH 307. This could potentially allow a student to enter MATH 405 without having MATH 137. The proposed revision will rectify this.

5. **Effect on completion of major/minor sequence:**
   There is no effect on completion of major/minor sequence

6. **Proposed term for implementation:**
   Spring 2018

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

Department of Mathematics	8/16/17
Ogden Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: April 14, 2017

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

Contact Person: Tom Richmond, tom.richmond@wku.edu 270-745-6219

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: MATH 421
   - 1.2 Course title: Problem Solving for Secondary Teachers
   - 1.3 Credit hours: 3.0

2. **Current prerequisites/corequisites/special requirements:**
   MATH 307 or 310 with a grade of "C" or better or permission of the instructor.

3. **Proposed prerequisites/corequisites/special requirements:**
   MATH 137 and MATH 307 or MATH 310 with grades of "C" or better or permission of the instructor.

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   An accompanying proposal will eliminate MATH 137 as a required prerequisite for MATH 307. This could indirectly allow a student to enter MATH 421 without having MATH 137. The proposed revision will rectify this.

5. **Effect on completion of major/minor sequence:**
   There is no effect on completion of major/minor sequence

6. **Proposed term for implementation:**
   Spring 2018

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

Department of Mathematics	8/16/17
Ogden Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: April 14, 2017

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

Contact Person: Tom Richmond, tom.richmond@wku.edu 270-745-6219

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: MATH 423
   - 1.2 Course title: Geometry II
   - 1.3 Credit hours: 3.0

2. **Current prerequisites/corequisites/special requirements:**
   MATH 323 with a grade of "C" or better or permission of the instructor.

3. **Proposed prerequisites/corequisites/special requirements:**
   MATH 137 and MATH 323 with grades of "C" or better or permission of the instructor.

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   An accompanying proposal will eliminate MATH 137 as a required prerequisite for MATH 307. This could indirectly allow a student to enter MATH 423 without having MATH 137. The proposed revision will rectify this.

5. **Effect on completion of major/minor sequence:**
   There is no effect on completion of major/minor sequence

6. **Proposed term for implementation:**
   Spring 2018

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

Department of Mathematics	8/16/17
Ogden Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 4/24/17

Ogden College of Science and Engineering
School of Engineering and Applied Sciences
Proposal to Delete a Course
(Consent Item)

Contact Person: Mark E. Cambron, mark.cambron@wku.edu, 270-745-8868

1. Identification of course:

1.1 Current course prefix (subject area) and number: CE 331

1.2 Course title: UK-Transportation Engineering

2. Rationale for the course deletion:

This course was developed to track credit hours earned from the University of Kentucky required in the joint WKU/UK CE Program. This program is no longer joint and CE 331 is no longer needed. CE 332 is the equivalent course will continue to be taught by the Engineering Department.

3. Effect of course deletion on programs or other departments, if known: none

4. Proposed term for implementation: Spring 2018

5. Dates of prior committee approvals:

Engineering Department	05/04/2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 4/24/17

Ogden College of Science and Engineering
School of Engineering and Applied Sciences
Proposal to Delete a Course
(Consent Item)

Contact Person: Mark E. Cambron, mark.cambron@wku.edu, 270-745-8868

1. Identification of course:

1.1 Current course prefix (subject area) and number: CE 341

1.2 Course title: UK-Fluid Thermal Science

2. Rationale for the course deletion:

This course was developed to track credit hours earned from the University of Kentucky required in the joint WKU/UK CE Program. This program is no longer joint and CE 331 is no longer needed. CE 332 is the equivalent course will continue to be taught by the Engineering Department.

3. Effect of course deletion on programs or other departments, if known: none

4. Proposed term for implementation: Spring 2018

5. Dates of prior committee approvals:

Engineering Department	05/04/2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 4/24/17

Ogden College of Science and Engineering
School of Engineering and Applied Sciences
Proposal to Delete a Course
(Consent Item)

Contact Person: Mark E. Cambron, mark.cambron@wku.edu, 270-745-8868

1. Identification of course:

1.1 Current course prefix (subject area) and number: CE 351

1.2 Course title: UK-Introduction to Environmental Engineering

2. Rationale for the course deletion:

This course was developed to track credit hours earned from the University of Kentucky required in the joint WKU/UK CE Program. This program is no longer joint and CE 351 is no longer needed. CE 352 is the equivalent course will continue to be taught by the Engineering Department.

3. Effect of course deletion on programs or other departments, if known: none

4. Proposed term for implementation: Spring 2018

5. Dates of prior committee approvals:

Engineering Department	05/04/2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 4/24/17

Ogden College of Science and Engineering
School of Engineering and Applied Sciences
Proposal to Delete a Course
(Consent Item)

Contact Person: Mark E. Cambron, mark.cambron@wku.edu, 270-745-8868

1. Identification of course:

1.1 Current course prefix (subject area) and number: CE 373

1.2 Course title: UK-Structural Analysis

2. Rationale for the course deletion:

This course was developed to track credit hours earned from the University of Kentucky required in the joint WKU/UK CE Program. This program is no longer joint and CE 373 is no longer needed. CE 382 is the equivalent course will continue to be taught by the Engineering Department.

3. Effect of course deletion on programs or other departments, if known: none

4. Proposed term for implementation: Spring 2018

5. Dates of prior committee approvals:

Engineering Department	05/04/2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 4/24/17

Ogden College of Science and Engineering
School of Engineering and Applied Sciences
Proposal to Delete a Course
(Consent Item)

Contact Person: Mark E. Cambron, mark.cambron@wku.edu, 270-745-8868

1. Identification of course:

1.1 Current course prefix (subject area) and number: CE 483

1.2 Course title: UK-Elementary Structural Design

2. Rationale for the course deletion:

This course was developed to track credit hours earned from the University of Kentucky required in the joint WKU/UK CE Program. This program is no longer joint and CE 483 is no longer needed. CE 482 is the equivalent course will continue to be taught by the Engineering Department.

3. Effect of course deletion on programs or other departments, if known: none

4. Proposed term for implementation: Spring 2018

5. Dates of prior committee approvals:

Engineering Department	05/04/2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date:

April 11, 2017

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

Contact Person: Huanjing Wang, huanjing.wang@wku.edu, 270-745-2672

1. **Identification of course:**
   1.1 Course prefix (subject area) and number: CS 360
   1.2 Course title: Software Engineering I

2. **Current course catalog listing:**
   Modern development cycle examined via software engineering: needs assessment, requirements analysis, user interface, design, construction, test, maintenance/enhancement. Current methodologies and tools: data dictionary, data flow diagrams, structured walkthroughs, teams, program management. Case studies involving automated CASE and expert systems.

3. **Proposed course catalog listing:**
   (aim for 25 words or less)
   Modern development cycle examined via software engineering: needs assessment, requirements analysis, user interface, design, construction, test, maintenance/enhancement. Current methodologies and tools: data dictionary, data flow diagrams, structured walkthroughs, teams, program management.

4. **Rationale for revision of the course catalog listing:**
   Automated CASE and expert systems have not been used in project for a few years. The revised course catalog listing reflects the current course work.

5. **Proposed term for implementation:**
   Spring 2018

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

Department of Computer Science	April 21,2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: April 17, 2017

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

Contact Person: Huanjing Wang, huanjing.wang@wku.edu, 270-745-2672

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: CS 405
   - 1.2 Course title: Numerical Analysis I
   - 1.3 Credit hours: 3.0

2. **Current prerequisites/corequisites/special requirements:**
   MATH 237 or 307 or 310, and CS 180 or CS 146 all with grades of C or better.

3. **Proposed prerequisites/corequisites/special requirements:**
   MATH 137, and MATH 237 or MATH 307 or MATH 310, and CS 180 or CS 146, all with grades of "C" or better.

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   This is a cross listing course with Math 405. Math department revised Math 405 prerequisite. The proposed revision will rectify this.

5. **Effect on completion of major/minor sequence:**
   There is no effect on completion of major/minor sequence

6. **Proposed term for implementation:**
   Spring 2018

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

Department of Computer Science	April 21,2017
OCSE Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 2 May, 2017

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

Contact Person: Chris Byrne, email chris.byrne@wku.edu, phone 745-6286

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: EM 303
   - 1.2 Course title: Mechanics of Deformable Solids

2. **Current prerequisites/corequisites/special requirements:**
   Prerequisite; MATH 137, EM 221 or EM 222 with a grade of C or better

3. **Proposed prerequisites/corequisites/special requirements:**
   Prerequisite; MATH 137 with a grade of C or better, EM 222 with a grade of C or better, PHYS 255 with a grade of C or better.

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   Including the C or better grade requirement ensures student preparation and incorporates previous graduation requirements. Including the physics keeps the student on track with pre-major and graduation requirements.

5. **Effect on completion of major/minor sequence:**
   None

6. **Proposed term for implementation:**
   Fall 2018

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

Engineering Department	May 4, 2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 2 May, 2017

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

Contact Person: Chris Byrne, email chris.byrne@wku.edu, phone 745-6286

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: EM 313
   - 1.2 Course title: Dynamics

2. **Current prerequisites/corequisites/special requirements:**
   Prerequisite; EM 221 or EM 222 with a grade of C or better, MATH 331 (may be taken concurrently).

3. **Proposed prerequisites/corequisites/special requirements:**
   Prerequisite; EM 222 with a grade of C or better, MATH 331 (may be taken concurrently), PHYS 255 with a grade of C or better.

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   Including the C or better grade requirement ensures student preparation and incorporates previous graduation requirements. Including the physics keeps the student on track with pre-major and graduation requirements.

5. **Effect on completion of major/minor sequence:**
   None

6. **Proposed term for implementation:**
   Fall 2018

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

Engineering Department	May 4, 2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 2 May, 2017

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

Contact Person: Chris Byrne, email chris.byrne@wku.edu, phone 745-6286

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: ME 176
   - 1.2 Course title: Mechanical Engineering Freshman Design

2. **Current prerequisites/corequisites/special requirements:**
   Prerequisite: MATH 116 or higher

3. **Proposed prerequisites/corequisites/special requirements:**
   Corequisite: MATH 117 or higher

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   This aligns requirement with that of the electrical and civil engineering programs.

5. **Effect on completion of major/minor sequence:**
   None

6. **Proposed term for implementation:**
   Fall 2018

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

Engineering Department	May 4, 2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 2 May, 2017

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

Contact Person: Chris Byrne, email chris.byrne@wku.edu, phone 745-6286

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: ME 200
   - 1.2 Course title: Sophomore Design

2. **Current prerequisites/corequisites/special requirements:**
   Prerequisite; ME 180 with a grade of C or better, EM 221 or EM 222

3. **Proposed prerequisites/corequisites/special requirements:**
   Prerequisite; ME 180 with a grade of C or better, Pre-major requirements satisfied in iCAP

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   This curriculum milestone is being shifted from the junior to the sophomore year to provide fewer obstacles to complete the degree. The requirement for admission to the major is being modified to reflect this change.

5. **Effect on completion of major/minor sequence:**
   None

6. **Proposed term for implementation:**
   Fall 2018

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

Engineering Department	May 4, 2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 2 May, 2017

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

Contact Person: Chris Byrne, email chris.byrne@wku.edu, phone 745-6286

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: ME 240
   - 1.2 Course title: Materials and Methods of Manufacturing

2. **Current prerequisites/corequisites/special requirements:**
   Prerequisite; CHEM 116 or CHEM 120, MATH 136 with a grade of C or better
   Corequisite; ME 241

3. **Proposed prerequisites/corequisites/special requirements:**
   Prerequisite; CHEM 116 with a grade of C or better or CHEM 120 with a grade of C or better, MATH 136 with a grade of C or better
   Corequisite; ME 241

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   Including the C or better grade here captures this requirement early in the program, it was previously a graduation requirement.

5. **Effect on completion of major/minor sequence:**
   None

6. **Proposed term for implementation:**
   Fall 2018

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

Engineering Department	May 4, 2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 2 May, 2017

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

Contact Person: Chris Byrne, email chris.byrne@wku.edu, phone 745-6286

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: ME 241
   - 1.2 Course title: Materials and Methods of Manufacturing Laboratory

2. **Current prerequisites/corequisites/special requirements:**
   Prerequisite; CHEM 116 or CHEM 120, MATH 136 with a grade of C or better
   Corequisite; ME 240

3. **Proposed prerequisites/corequisites/special requirements:**
   Prerequisite; CHEM 106 or CHEM 121
   Corequisite; ME 240

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   The current prerequisites are captured in the corequisite course CHEM116 or CHEM120. Adding the CHEM106 or CHEM121 lab ensures students' progress through the program and provides greater lab experience for those entering the course.

5. **Effect on completion of major/minor sequence:**
   None

6. **Proposed term for implementation:**
   Fall 2018

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

Engineering Department	May 4, 2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 2 May, 2017

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

Contact Person: Chris Byrne, email chris.byrne@wku.edu, phone 745-6286

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: ME 300
   - 1.2 Course title: Junior Design

2. **Current prerequisites/corequisites/special requirements:**
   Prerequisite; ME 200 with a grade of C or better, ME 344, pre-major satisfied in iCAP

3. **Proposed prerequisites/corequisites/special requirements:**
   Prerequisite; ME 200 with a grade of C or better, ME 220, ME 344

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   Transition to major will be captured in ME 200. Including ME 220 here provides more technical background for design, and ensures the course is taken within the first 5 semesters of the suggested plan of study so that students are not delayed in progress towards the degree.

5. **Effect on completion of major/minor sequence:**
   None

6. **Proposed term for implementation:**
   Fall 2018

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

Engineering Department	May 4, 2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 2 May, 2017

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

Contact Person: Chris Byrne, email chris.byrne@wku.edu, phone 745-6286

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: ME 310
   - 1.2 Course title: Engineering Instrumentation and Experimentation

2. **Current prerequisites/corequisites/special requirements:**
   Prerequisite; EM 302 or EM 303, ME 241, MATH 331 (may be taken concurrently)

3. **Proposed prerequisites/corequisites/special requirements:**
   Prerequisite; EM 303, EE 210, ME 347 (may be taken concurrently)

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   The topical content in EE 210 and ME 347 will better prepare the students for the course.

5. **Effect on completion of major/minor sequence:**
   None

6. **Proposed term for implementation:**
   Fall 2018

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

Engineering Department	May 4, 2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 2 May, 2017

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

Contact Person: Chris Byrne, email chris.byrne@wku.edu, phone 745-6286

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: ME 325
   - 1.2 Course title: Heat Transfer

2. **Current prerequisites/corequisites/special requirements:**
   Prerequisite; ME 330

3. **Proposed prerequisites/corequisites/special requirements:**
   Prerequisite; ME 330
   Corequisite; ME 333 Heat Transfer Laboratory

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   ME 325 and ME 333 are to be taken concurrently. This change provides clarity to the requirement, and is already indicated in the laboratory course requirement.

5. **Effect on completion of major/minor sequence:**
   None

6. **Proposed term for implementation:**
   Fall 2018

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

Engineering Department	May 4, 2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 2 May, 2017

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

Contact Person: Chris Byrne, email chris.byrne@wku.edu, phone 745-6286

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: ME 330
   - 1.2 Course title: Fluid Mechanics

2. **Current prerequisites/corequisites/special requirements:**
   Prerequisite; MATH 331, ME 220 (may be taken concurrently)

3. **Proposed prerequisites/corequisites/special requirements:**
   Prerequisite; MATH 331, ME 220 with a grade of C or better, MATH 237
   Corequisite; ME 332 Fluid Mechanics Laboratory

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   ME 330 and ME 332 are to be taken concurrently. This change provides clarity to the requirement, and is already indicated in the laboratory course requirement. Having ME 220 be taken before gives better student preparation, and having the C or better grade ensures adequate preparation. The surface and volume integration learned in MATH 237 will improve student preparation for the course.

5. **Effect on completion of major/minor sequence:**
   None

6. **Proposed term for implementation:**
   Fall 2018

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

Engineering Department	May 4, 2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 2 May, 2017

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

Contact Person: Chris Byrne, email chris.byrne@wku.edu, phone 745-6286

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: ME 332
   - 1.2 Course title: Fluid Mechanics Laboratory

2. **Current prerequisites/corequisites/special requirements:**
   Prerequisite; MATH 331, ME 220 (may be taken concurrently) (these are not presently reflected in the Undergraduate catalog)

3. **Proposed prerequisites/corequisites/special requirements:**
   Prerequisite; MATH 331, ME 220 with a grade of C or better, MATH 237, ME 310
   Corequisite; ME 330 Fluid Mechanics

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   ME 330 and ME 332 are to be taken concurrently. This change provides clarity to the requirement. Having ME 220 be taken before gives better student preparation, and having the C or better grade ensures adequate preparation. The surface and volume integration learned in MATH 237 will improve student preparation for the course. Including ME 310 ensures student preparation in experimental methods used in the course.

5. **Effect on completion of major/minor sequence:**
   None

6. **Proposed term for implementation:**
   Fall 2018

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

Engineering Department	**May 4, 2017**
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 2 May, 2017

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

Contact Person: Chris Byrne, email chris.byrne@wku.edu, phone 745-6286

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: ME 333
   - 1.2 Course title: Heat Transfer Laboratory

2. **Current prerequisites/corequisites/special requirements:**
   Prerequisite; none
   Corequisite; ME 325

3. **Proposed prerequisites/corequisites/special requirements:**
   Prerequisite; ME 332
   Corequisite; ME 325

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   ME 332 is taken concurrently with ME 330, which is a Prerequisite for ME 325. Adding this provides clarity to the requirement and is consistent with lab prerequisite identification used elsewhere in the program.

5. **Effect on completion of major/minor sequence:**
   None

6. **Proposed term for implementation:**
   Fall 2018

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

Engineering Department	May 4, 2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 2 May, 2017

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

Contact Person: Chris Byrne, email chris.byrne@wku.edu, phone 745-6286

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: ME 344
   - 1.2 Course title: Mechanical Design

2. **Current prerequisites/corequisites/special requirements:**
   Prerequisite; EM 302 or EM 303 with a grade of C or better, ME 240 (may be taken concurrently)

3. **Proposed prerequisites/corequisites/special requirements:**
   Prerequisite; EM 303 with a grade of C or better, ME 240 with a grade of C or better

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   EM 302 is being removed from the catalog. Having ME 240 be taken before gives better student preparation, and having the C or better grade ensures adequate preparation.

5. **Effect on completion of major/minor sequence:**
   None

6. **Proposed term for implementation:**
   Fall 2018

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

Engineering Department	**May 4, 2017**
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 1 August 2017

Potter College of Art & Letters
Ogden College of Science and Engineering
Dean's Offices
Proposal to Revise Course Prerequisites/Corequisites
(Consent Item)

Contact Person:	Andrew McMichael	andrew.mcmichael@wku.edu	5-6538
	Cate Webb	cathleen.webb@wku.edu	56181

1. Identification of course:

1.1 Course prefix (subject area) and number: BDAS 495

1.2 Course title: Brewing and Distilling Arts & Sciences

2. Current prerequisites/corequisites/special requirements: Senior standing and consultation with a designee of the Ogden College or Potter College Dean's office.

3. Proposed prerequisites/corequisites/special requirements: Registration in the certificate and consultation with a designee of the Ogden college, Gordon Ford college, or Potter college Dean's office.

4. Rationale for the revision of prerequisites/corequisites/special requirements: The current wording is such that students might find themselves not having senior standing in, for example, summer 2018, but then would take enough credits during 2018-2019 [fall, winter, spring, summer] to graduate. They would then have to take an internship after graduation. The current wording also does not allow the co-coordinator in Gordon Ford to approve internships.

5. Effect on completion of major/minor sequence: This will give students more flexibility in completing the program in a timely fashion.

6. Proposed term for implementation: Next available term

7. Dates of prior committee approvals:

PCAL & Ogden & GFCoB Deans' Offices	1 August 2017
PCAL College Curriculum Committee	
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: April 3, 2017

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

Contact Person: Sigrid Jacobshagen, sigrid.jacobshagen@wku.edu, 270-745-5994

1. Identification of proposed course:

1.1 Course prefix (subject area) and number: BIOL 388
1.2 Course title: Contemporary Issues in Biotechnology
1.3 Abbreviated course title: Contemp Biotechnology Issues
1.4 Credit hours: 1
1.5 Grade type: Pass/fail and IP (in progress)
1.6 Special requirement: Restricted to majors of the Molecular Biotechnology program
1.7 Course description: Examination of recent advances, ethics and career opportunities in biotechnology through discussions, seminars, and field trips.

2. Rationale:

2.1 Reason for developing the proposed course: The proposed course requires students to integrate what they learn in the classroom to broader issues of the quickly evolving field of biotechnology. It also better prepares students for the biotechnological workplace and contributes to retention of Molecular Biotechnology majors by providing a cohort-based environment for support and nurturing purposes. Each Molecular Biotechnology major will be required to take the course as partial installment every semester for four years. As a consequence, the course will bring together all Molecular Biotechnology majors, from freshman to senior.

2.2 Projected enrollment in the proposed course: Up to 50 students per semester. This number is based on previous graduation rates for the old biotechnology-relevant major Recombinant Genetics and the current graduation rate for a similar specialty-major, Biochemistry.

2.3 Relationship of the proposed course to courses now offered by the department: The proposed course is unique in bringing together all students with the same major and fostering their interactions.

2.4 Relationship of the proposed course to courses offered in other departments: Seminar-type courses on contemporary or current issues for a particular major are offered by a number of departments across WKU. Examples would be AMS 401 Contemporary Issues in Architecture and Manufacturing or GEOG 486 Environmental Seminar. Most provide a forum for discussions, a few include also field trips such as PSYS 499 Senior Seminar in Psychology and a few others are also pass/fail such as HMD 459 Senior Seminar in Hospitality Management and Dietetics. The proposed course is unusual in involving all student levels from freshmen to seniors and in separating the experience into eight semester installments.

2.5 Relationship of the proposed course to courses offered in other institutions: Among the universities in the Commonwealth, courses are offered that are similar to parts of the proposed course although none combines all its aspects. For example, the University of Kentucky offers a biotechnology-related course that requires writings, presentations and discussions. The course is called Technical Writing and Presentations in Biotechnology (ABT 301). Morehead State University offers a seminar course that is similar to the proposed course in focusing on contemporary issues in a particular discipline of a major although not in Biotechnology but in a related field. The course is called Issues in Biomedical Science (BIO 499) and supports its Biomedical Science major. Of the benchmark institutions, James Madison University offers a quite similar course with its Biotechnology Seminar (BIOT 260), whose "topics include research opportunities, careers and current topics in biotechnology".

3. Discussion of proposed course:

3.1 Schedule type: S—Seminar: Group discussion and exchange of information

3.2 Learning Outcomes: Students will be able to

1. correctly interpret and deliberate upon laboratory safety procedures.
2. interpret and articulate recent advances in biotechnology.
3. discuss ethical considerations connected with biotechnological procedures.
4. comment upon the various work environments that biotechnologists may encounter and demonstrate career preparation through resume development.

3.3 Content outline:

Laboratory safety.
Recent biotechnology-relevant research and advances.
Ethics of biotechnological procedures.
The biotechnological work place
Resume or curriculum vitae
Assessment and student survey

3.4 Student expectations and requirements: Readings, presentations and active discussions of biotechnological issues including ethics, attendance at scientific seminars, participation in field trips, participation in career development activities, and taking an assessment and survey.

3.5 Tentative texts and course materials: No textbook required.

4. Resources:

4.1 Library resources: Adequate. Access to primary scientific literature.

4.2 Computer resources: Adequate. Access to the internet through a student's personal computer or through University-owned computers are available.

5. Budget implications:

5.1 Proposed method of staffing: Current full-time faculty related to the Molecular Biotechnology major.

5.2 Special equipment needed: None

5.3 Expendable materials needed: None

5.4 Laboratory materials needed: None

6. **Proposed term for implementation: Fall 2018**

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

Department of Biology	**April 7, 2017**
College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Attachment: Course Inventory Form

Proposal Date: April 3, 2017

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

Contact Person: Sigrid Jacobshagen, sigrid.jacobshagen@wku.edu, 270-745-5994

1. Identification of program:

1.1 Current program reference number: 714
1.2 Current program title: Major in Investigative Biotechnology
1.3 Credit hours: 48

2. Identification of the proposed program changes:

- Change title of major from Investigative Biotechnology to Molecular Biotechnology.
- Change credit hours from 48 to 55.
- Drop as required courses:
  - BIOL 150 (Investigative Biotechnology Core I)
  - BIOL 151 (Investigative Biotechnology Core II)
  - BIOL 199 (Introduction to Research Experience)
  - BIOL 275 (Colloquia)
  - BIOL 495 (Molecular Genetics).
- Add as required courses:
  - BIOL 120/121 (Biological Concepts: Cells, Metabolism, and Genetics & Laboratory)
  - BIOL 122/123 (Biological Concepts: Evolution, Diversity and Ecology & Laboratory)
  - BIOL 212 (Genome Discovery and Exploration)
  - BIOL 226/227 (Microbial Biology and Diversity & Laboratory)
  - BIOL 319/322 (Introduction to Molecular and Cell Biology & Laboratory)
  - BIOL 382 (Introductory Biostatistics)
  - BIOL 388 (Contemporary Issues in Biotechnology)
  - BIOL 447 (Lab Biochemistry I)
  - BIOL 489 (Professional Aspects of Biology).
- Drop as electives the choice of any biology course applicable to the two biology majors.
- Add as electives the list of courses:
  - BIOL 222/223 (Plant Biology and Diversity & Laboratory) or BIOL 224/225 (Animal Biology and Diversity & Laboratory)
  - BIOL 316 (Evolution)
  - BIOL 328 (Immunology)
  - BIOL 330 (Animal Physiology)
  - BIOL 331 (Animal Physiology Laboratory)
  - BIOL 335 (Neurobiology)
  - BIOL 400 (Plant Physiology)
  - BIOL 403 (Molecular Basis of Cancer)
  - BIOL 404 (Electron Microscopy)

- BIOL 407 (Virology)
- BIOL 412 (Cell Biology Laboratory)
- BIOL 420 (Introduction to Toxicology)
- BIOL 440 (Developmental Genetics)
- BIOL 464 (Endocrinology)
- BIOL 467 (Biochemistry II)
- BIOL 470 (Pathogenic Microbiology)
- BIOL 490 (Plants as Alternative Therapeutics)
- BIOL 495 (Molecular Genetics)
- BIOL 496 (Plant Biotechnology).

- Drop as required supporting course:
  - BIOL 283 (Introductory Biostatistics).
  - CHEM 314 (Introduction to Organic Chemistry)
- Add as required supporting courses:
  - The sequence MATH 116 (College Algebra) and MATH 117 (Trigonometry) as the choice with MATH 136 (Calculus I) from which the students have to choose one.
  - AMS 371 (Quality Assurance) or AMS 390 (Project Management) or AMS 430 (Technology Management/Team Building).

3. Detailed program description:

Current program	**Proposed program**
Title Major in ~~Investigative~~ Biotechnology	Title Major in **Molecular** Biotechnology
Required coursework (~~38~~ hrs) ~~BIOL 150: Investigative Biotechnology Core I (5)~~ ~~BIOL 151: Investigative Biotechnology Core II (5)~~ ~~BIOL 199: Introduction to Research Experience (1)~~ ~~BIOL 275: Colloquia (1)~~ BIOL 312: Bioinformatics (4) BIOL 327: Genetics (4) BIOL 350: Introduction to Recombinant Genetics (3) BIOL 369: Cooperative Education in Biology (3) or BIOL 399: Research Problems in Biology (3) BIOL 411: Cell Biology (3) BIOL 446: Biochemistry I (3) ~~BIOL 495: Molecular Genetics (3)~~	Required coursework (**45** hrs) **BIOL 120/121: Biological Concepts: Cells, Metabolism, and Genetics & Laboratory (4)** **BIOL 122/123: Biological Concepts: Evolution, Diversity and Ecology & Laboratory (4)** **BIOL 212: Genome Discovery and Exploration (2)** **BIOL 226/227: Microbial Biology and Diversity & Laboratory (4)** BIOL 312: Bioinformatics (4) **BIOL 319/322: Introduction to Cellular and Molecular Biology & Laboratory (4)** BIOL 327/337: Genetics & Laboratory (4) BIOL 350: Introduction to Recombinant Genetics (3) BIOL 369: Cooperative Education in Biology (3) or BIOL 399: Research Problems in Biology (3) **BIOL 382: Introductory Biostatistics (3)** **BIOL 388: Contemporary Issues in Biotechnology (1)** BIOL 411: Cell Biology (3) BIOL 446: Biochemistry I (3) **BIOL 447: Biochemistry Laboratory (2)** **BIOL 489: Professional Aspects of Biology (1)**

Elective coursework (10 hrs) ~~Any course in the biology curriculum applicable to the biology major may be used as an elective for the Investigative Biotechnology major in consultation with the student's advisor.~~	Elective coursework (10 hrs) chosen from the following list **BIOL 222/223: Plant Biology and Diversity & Laboratory (4) or BIOL 224/225: Animal Biology and Diversity & Laboratory (4)** **BIOL 316: Evolution (3)** **BIOL 328: Immunology (4)** **BIOL 330: Animal Physiology (3)** **BIOL 331: Animal Physiology Laboratory (1.5)** **BIOL 335: Neurobiology (3)** **BIOL 400: Plant Physiology (4)** **BIOL 403: Molecular Basis of Cancer (3)** **BIOL 404: Electron Microscopy (4)** **BIOL 407: Virology (3)** **BIOL 412: Cell Biology Laboratory (1)** **BIOL 420: Introduction to Toxicology (3)** **BIOL 440: Developmental Genetics (3)** **BIOL 464: Endocrinology (3)** **BIOL 467: Biochemistry II (3)** **BIOL 470: Pathogenic Microbiology (3)** **BIOL 490: Plants as Alternative Therapeutics (3)** **BIOL 495: Molecular Genetics (3)** **BIOL 496: Plant Biotechnology (4)**
Supporting coursework ~~BIOL 283: Introductory Biostatistics (4)~~ or MATH 136: Calculus I (4) CHEM 120/121: College Chemistry I & Lab (5) CHEM 222/223: College Chemistry II & Lab (5) ~~CHEM 314: Introduction to Organic Chemistry (5)~~ or [CHEM 340/341: Organic Chemistry I & Lab (5) and CHEM 342/343: Organic Chemistry II & Lab (5)] PHYS 231/232: Introduction to Physics and Biophysics I & Lab (4) PHYS 332/233: Introduction to Physics and Biophysics II & Lab (4)	Supporting coursework **Either MATH 116: College Algebra (3) and MATH 117: Trigonometry (3)]** or MATH 136: Calculus I (4) CHEM 120/121: College Chemistry I & Lab (5) CHEM 222/223: College Chemistry II & Lab (5) CHEM 340/341: Organic Chemistry I & Lab (5) and CHEM 342/343: Organic Chemistry II & Lab (5) PHYS 231/232: Introduction to Physics and Biophysics I & Lab (4) PHYS 332/233: Introduction to Physics and Biophysics II & Lab (4) **AMS 371: Quality Assurance (3) or AMS 390: Project Management (3) or AMS 430: Technology Management/Team Building (3)**

4. Rationale for the proposed program change:

Overall, the proposed changes are the result of intensive research on current and projected requirements and conditions for work in the biotechnology industry or in biotechnology research in an academic setting. The changes are also intended to better align the courses with departmental resources and with recently developed biotechnology-related courses.

- The new title of the major (Molecular Biotechnology instead of Investigative Biotechnology) reflects the focus on molecular processes and molecular technologies.
- The change in credit hours of the major from 48 to 55 hours is necessary to achieve the intended depth of education, particularly in light of modern developments in the field of molecular biotechnology.
- The previously required introductory series specific for the major (BIOL 150/151: Investigative Biotechnology Core I/II) and the equally specific Introduction to Research Experience (BIOL 199) will be replaced with the introductory series required for the Biology major (BIOL120/121 and 122/123: Biological Concepts in Cells, Metabolism, & Genetics as well as in Evolution, Diversity and Ecology, with their laboratories) and with the recently developed Genome Discovery and Exploration course (BIOL 212). The aims of each set of courses are the same, i.e. to lay a basic foundation of required knowledge but at the same time to also instill enthusiasm for the scientific approach through hands-on, investigative exercises. The proposed changes make the approach far superior, however, because they rely on well-developed courses in the department. The Genome Discovery and Exploration course in particular relies on molecular biotechnology-related research specifically geared towards freshmen and has already produced many student presentations, student databank entries and publications with student authors. The changes will also better integrate the Molecular Biotechnology major into the Biology Department for more efficient use of resources and faculty time.
- Replacing the required Colloquia (BIOL 275) with Contemporary Issues in Biotechnology (BIOL 388) will not increase the number of credit hours (both are 1 credit hour), but it will elevate this requirement to a branding course for the major creating a cohort-based environment that fosters peer-to-peer learning. It will be taken each semester by every Molecular Biotechnology major, from freshman to senior, as an in-progress course. Since molecular biotechnology changes rapidly, the frequent course interval will also allow students to become better acquainted with these changes.
- The additional required courses, which are Microbial Biology and Diversity & Laboratory (BIOL 226/227), Introduction to Molecular and Cell Biology & Laboratory (BIOL 319/322), Introductory Biostatistics (BIOL 382), and Biochemistry Laboratory (BIOL 447) will provide necessary content that is required for mastering concepts in molecular biotechnology.
- The addition of a required Professional Aspects of Biology (BIOL 489) upon the completion of a supervised internship experience (BIOL 369) or independent research project (BIOL 399) will cap the experience by employing peer-to-peer learning to leverage the research or internship exposure, while preparing the students for careers in the molecular biotechnology field.
- Listing these particular courses as electives instead of allowing any course as an elective that is also applicable to the biology majors will ensure that students are on a path of learning where they gain a solid understanding of the breadth of concepts in molecular biotechnology.
- Removing Introductory Biostatistics (BIOL 283) as the choice with Calculus I as supporting course is necessary, since Introductory Biostatistics (which lately received the new number of BIOL 382) has been made a required course in line with the importance the subject plays in molecular biotechnology, where large amounts of data are often produced and analyzed. Instead, the two-course-sequence College Algebra (MATH 116)

and Trigonometry (MATH 117) as the other choice with Calculus I is added, because Trigonometry is required as prerequisite for Introductory Biostatistics and College Algebra as prerequisite for Trigonometry. As a consequence, the mathematics that is required is made more clear.

- Introduction to Organic Chemistry (CHEM 314) is removed because the Chemistry Department does not offer the course anymore.
- Three AMS courses are added as supporting courses from which students have to choose one in order to better prepare themselves for the biotechnological workplace in industry or academia.

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

Fall of 2018

6. Dates of prior committee approvals:

Department of Biology	**April 7, 2017**
Ogden College Curriculum Committee	_____
Undergraduate Curriculum Committee	_____
University Senate	_____

Proposal Date: 8/16/2017

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

Contact Person: Diane Lickenbrock, Diane.Lickenbrock@wku.edu, 5-4264

1. Identification of proposed course:

1.1 Course prefix (subject area) and number: PSYS 425

1.2 Course title: Developmental Psychopathology

1.3 Abbreviated course title: Developmental Psychopathology
(maximum of 30 characters or spaces)

1.4 Credit hours: 3 Variable credit (yes or no) NO

1.5 Grade type: Letter grade

1.6 Prerequisites/corequisites: PSYS 210 and PSYS 211 with grades of C or better, and PSYS 220 or PSYS 321 or PSYS 440, or permission of instructor.

1.7 Course description: Examines the interaction between the dynamic processes underlying both normative human development and the development of psychopathology. Theoretical and empirical research will be reviewed, focusing on the psychological science of the principles of adaptation and maladaptation.

2. Rationale:

2.1 Reason for developing the proposed course: The Department of Psychological Sciences has a particular focus in the area of developmental psychology and this course enhances that focus. The field of developmental psychopathology offers advanced approaches to conceptualizing, studying, and intervening in developmental processes. This approach encourages students to develop the ability to integrate information from various areas of psychological science (e.g., clinical, developmental, neuroscience) to better understand human development from a normative as well as non-normative perspective.

Psychological research focusing on normative development often does not generalize well to understanding the thoughts, behaviors, and emotions of people who are developing along a non-normative trajectory. This course will complement our current course offerings by giving students an opportunity to explore the ways that scientists study non-normative development as well as the impact of psychopathologies on typical normative trajectories.

Given the prevalence of non-normative developmental outcomes, it is critical that our students achieve an understanding of the etiology of non-normative outcomes as well as mechanisms of intervention. Such understanding will give them greater opportunities to understand the diversity of individuals with whom they interact as well as an enhanced ability to provide a high quality of life for our constituents.

2.2 Projected enrollment in the proposed course: 25 students per year. This projection is based on demand when the course was offered as a special topics offering.

2.3 Relationship of the proposed course to courses now offered by the department: Consistent with our scholarly expertise in the area of developmental psychology, the Department of Psychological Sciences offers several courses that focus on normative development (PSYS 220-Introduction to Lifespan Developmental Psychology, PSYS 321- Child Developmental Psychology, and PSYS 423-Psychology of Adult Life and Aging, PSYS 424 Special Topics in Developmental Psychology). In addition, we offer PSYS 440-Abnormal Psychology, but this is a survey course that does not focus specifically on developmental process involved in psychopathology.

2.4 Relationship of the proposed course to courses offered in other departments: PSY 220 (Introduction to Lifespan Developmental Psychology) and PSY 440 (Abnormal Psychology) are equivalent to PSYS 220 and PSYS 440 but are offered by the Department of Psychology. The Department of Psychology also offers PSY 346 (Foundations of Clinical and Community Behavioral Health) and PSY 445 (Introduction to Clinical and School Psychology), which are focused on understanding mental health from the perspective of a mental health professional. Thus, these courses differ substantially from the proposed course, which places a greater emphasis on the design, conduct, and interpretation of research and theories, and use developmental psychological science to understanding non-normative development.

The Department of Family and Consumer Sciences offers a number of courses on the role that a child's environment and background plays in development, including FACS 292 (Diversity in Early Childhood Programs), FACS 391 (Risk and Resilience), FACS 395 (Child and Family Stress), FACS 492 (Growth and Guidance of Children), and FACS 496 (Addressing Challenging Behavior in Young Children). Also, the School of Teacher Education offers a number of courses (SPED – Special Education) on the role that psychopathologies can play in educating children and how educators can accommodate their instruction to meet the needs of children in special education/exceptional education programs within schools to foster social and cognitive development of children. The proposed course differs from these by focusing on the research in psychological science used to build theories in psychology about the systems involved in the emergence and development of psychopathology and is not focused on interacting/intervening directly in schools and in the home.

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

The majority of our benchmarks offer the same, or a similar course, at the graduate level. Ball State University and Bowling Green State University offer Developmental Psychopathology at the undergraduate level. Many institutions outside of our benchmarks offer Developmental Psychopathology at the

undergraduate level including: Boston University, Cal State Long Beach, Cal State Northridge, Cornell University, Muhlenberg College, SUNY Empire State, University of Chicago, UC Santa Barbara, UC Berkeley, and UNC Chapel Hill.

3. Discussion of proposed course:

3.1 Schedule type: Lecture

3.2 Learning Outcomes:

Upon completion of this course students will:

- Be familiar with the history and goals of studying psychopathology from a developmental perspective
- Understand the relationship between studying normative and non-normative development
- Identify the biological and sociocultural forces implicated in psychopathology
- Be familiar with major forms of prevention and intervention of mental health problems in children and adolescents
- Critically evaluate research in developmental psychopathology
- Be able to communication, in oral and written forms, an understanding of research and theory in developmental psychopathology

3.3 Content outline:

1. Basic Overview of Developmental Psychopathology
    a. What is Developmental Psychopathology?
    b. Identifying the Dynamic Processes Underlying the Development of Psychopathology
    c. Methodology and Developmental Psychopathology
    d. Psychopathology as a Developmental Outcome
2. Risk, Resiliency, and Vulnerability
    a. Risk and Resiliency
    b. Biological Sensitivity to Psychopathology
    c. Gene X Environment Interactions
3. Psychological Research into the Role of Family in Developmental Outcomes
    a. The Parent-Child Relationship
    b. Maltreatment and Neurobiology of Stress
    c. Marital Conflict and Child Outcomes
    d. Parent-Child Emotion and Regulation
4. Psychological Research into Prevention, Intervention, and Application
    a. Prevention & Intervention
    b. Applications
    c. Preventing and Treating Mental Health Problems in Children

3.4 Student expectations and requirements:

Students will be graded on their performance via

- Active class participation, included prepared discussion questions
- Three to four exams
- Two papers, in APA format, critically analyzing the scientific literature.

3.5 Tentative texts and course materials:

- Cummings, E. M., Davies, P. T., & Campbell, S. B. (2000). *Developmental Psychopathology and Family Process: Theory, Research, and Clinical Implications*. New York: Guilford Press.
- APA Publication manual (6th edition)
- Cummings, E. M., & Davies, P. T. (2010). *Marital Conflict and Children: An Emotional Security Perspective*. New York: Guilford Press.
- Articles from scholarly journals in the discipline (the following represents a sample):

Cicchetti, D., Rogosch, F. A., & Toth, S. L. (2006). Fostering secure attachment in infants in maltreating families through preventive interventions. *Development and Psychopathology, 18*, 623-650.

Davies, P. T., Cicchetti, D., & Hentges, R. F. (2015). Maternal unresponsiveness and child disruptive problems: The interplay of uninhibited temperament and dopamine transporter genes. *Child Development, 86*, 63-79.

Ellis et al., (2011). Differential susceptibility to the environment: An evolutionary-neurodevelopmental theory. *Development & Psychopathology, 23*, 7-28.

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56*, 227-238.

Maughan, A., Cicchetti, D., Toth, S. L., & Rogosch, F. A. (2007). Early-occurring maternal depression and maternal sensitivity in predicting young children's emotional regulation and socioemotional difficulties. *Journal of Abnormal Child Psychology, 34*, 685-703.

Moffitt, T. E., Caspi, A., & Rutter, M. (2006). Measured gene– environment interactions in psychopathology: concepts, research strategies, and implications for research, intervention, and public understanding of genetics. *Perspectives on Psychological Science, 1*, 5-27.

Pollak, S. D., Cicchetti, D., Hornung, K., & Reed, A. (2000). Recognizing emotion in faces: Developmental effects of child abuse and neglect. *Developmental Psychology, 36,* 679-688.

Rutter et al. (1997). Integrating nature and nurture: Implications of person-environment correlations and interactions for developmental psychopathology. *Development and Psychopathology, 9*, 335-364.

Sroufe, L. A. (2013). The promise of developmental psychopathology: past and present. *Development and Psychopathology, 25*, 1215-24

4. **Resources:**
   - 4.1 Library resources: Students will use the Psychology and Science indexing/abstracting/full-text services offered by the WKU library. Current resources will provide adequate access to journal articles needed for this course.
   - 4.2 Computer resources: no additional resources
5. **Budget implications:**
   - 5.1 Proposed method of staffing: Current faculty will staff this course
   - 5.2 Special equipment needed: None
   - 5.3 Expendable materials needed: None
   - 5.4 Laboratory materials needed: None

6. **Proposed term for implementation:** Spring 2018

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

Department of Psychological Sciences	August 16, 2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 8/16/2017

Ogden College of Science and Engineering
Department of 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 442
1.2 Course title: Psychology of Suicide and Self-Injury
1.3 Abbreviated course title: PSY OF SUICIDE & SELF INJURY
(maximum of 30 characters or spaces)
1.4 Credit hours: 3 Variable credit (yes or no) no
1.5 Grade type: Letter
1.6 Prerequisites/corequisites: Junior standing and a grade of C or better in PSYS 440, or permission of instructor.
1.7 Course description: This course focuses on the study of self-harm behavior in depth, specifically on suicide and self-injury. Topics include theories of suicide, risk and protective factors, assessing and managing suicide risk in clinical settings, treatment for suicidal patients, ethics, nonsuicidal self-injury, the neurobiology of suicide, and prevention and post-vention.

2. Rationale:

2.1 Reason for developing the proposed course:
Suicidal and self-injurious behaviors represent a serious threat to the well-being of adolescents and young adults. An estimated 800,000 deaths occur annually as a result of suicide; suicide is currently the second leading cause of death for 15-29 year olds. The incidence of suicidal and nonsuicidal self-harm behaviors is difficult to document but may be as high as 35% for adolescents. The relationship between self-harm behaviors and suicidal behaviors is not well understood but may have similar risk factors.

Because of the prevalence of these behaviors, teaching Psychological Science students about risk factors and treatments adds significantly to their development as socially responsible citizen-leaders. It also contributes to WKU's goal of identifying and helping to solve key social, health, and scientific problems, especially at a time when numerous institutions are working together to try to reduce the incidence of suicide. Moreover, teaching about suicide from a clinical psychological science perspective represents an opportunity to illustrate for students how biological, psychological and sociocultural factors interact to produce behavior. Thus, this course lays an important foundation for engaged research as well as public service that will help to improve the quality of life for citizens in the state.

2.2 Projected enrollment in the proposed course:
Approximately 25 students per year. We have taught this topic as a Special Topics course with consistent demand.

2.3 Relationship of the proposed course to courses now offered by the department: We currently offer PSYS 440 (Abnormal Psychology). PSYS 450 (Psychology of Personality) is also related. However, both of these are very broad survey courses and cannot deal adequately with the more specialized, but important, topics of suicide and self-injury.

2.4 Relationship of the proposed course to courses offered in other departments: Psychology offers PSY 440 (Abnormal Psychology), which is course equivalent to PSYS 440 (mentioned above) and is a broad survey course with minimal overlap to the proposed course's content. PSY 346 (Foundations of Clinical and Community Behavioral Health) is a survey course that covers knowledge and skills useful to service as a professional in community mental health agencies, and, like PSYS and PSY 440, minimally overlaps with the proposed course given that the course does not focus specifically on suicide. There appears to be no other undergraduate level courses dealing with this topic at WKU

2.5 Relationship of the proposed course to courses offered in other institutions: Courses on the Psychology of Death and Dying are commonly found at many universities. Courses specifically focused on suicide at the undergraduate level are less common but are offered at several universities. For example, Psychology of Suicide is offered at the University of Wisconsin and at the University of Florida. At UCLA, the course is called Psychology of Death, Suicide, and Trauma

3. Discussion of proposed course:

3.1 Schedule type: Lecture

3.2 Learning Outcomes: Upon completion of this course students will

1. Display basic knowledge about the field of suicidology and self-injury.
2. Understand the psychological and biological theories of self-harm, risk and protective factors, assessment, treatment, and post-vention.
3. Show enhanced critical thinking skills by exploring the ethics of suicide, and evaluating current empirical research in the field.
4. Display in-depth knowledge about a specific topic within the field of self-harm.

3.3 Content outline:

1. The Suicidal Mind
2. Suicide Terms and Definitions
3. Studying Suicidal Populations
4. Theories of Suicide
5. Risk and Protective Factors (psychopathology and neurobiology)
6. Attempts and Method
7. Demographics of Suicide
8. Assessing and Managing Suicide Risk
9. Treatment for Suicidal Individuals
10. Suicide Prevention
11. Suicide Survivors: Post-vention
12. Ethics and Suicide
13. Nonsuicidal Self-Injury

3.4 Student expectations and requirements: Students will be evaluated on the basis of exams, discussion questions, presentations, and class participation

3.5 Tentative texts and course materials:

1. Jobes, D. A. (2016). *Managing Suicidal Risk; A Collaborative Approach, 2nd Edition.* New York: Guilford Press.
2. Joiner, T. E. (2005). *Why People Die by Suicide*. Cambridge, MA: Harvard University Press.
3. Shneidman, E. S. (1996). *The Suicidal Mind*. New York: Oxford University Press.
4. O'Connor, R. C., & Nock, M. K. (2014). The psychology of suicidal behavior. *Lancet Psychiatry, 1,* 73-85.
5. Van Heeringen & Mann, (2014). The neurobiology of suicide. *Lancet Psychiatry, 1,* 63-72.
6. Linehan, M. M. et al. (2012). Assessing and managing risk with suicidal individuals. *Cognitive and Behavioral Practice, 19,* 218-232.
7. Nock, M. K. (2010). Self-injury. *Annual Review of Clinical Psychology, 6,* 15-25.

4. Resources:

4.1 Library resources: Journal entitled *Suicide and Life Threatening Behavior* recommended

4.2 Computer resources: None

5. Budget implications:

5.1 Proposed method of staffing: Current staff

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	August 16, 2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: March 8, 2017

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

Contact Person: Huanjing Wang, huanjing.wang@wku.edu, 270-745-2672

1. Identification of proposed course:

1.1 Course prefix (subject area) and number: CS 372
1.2 Course title: Mobile App Development
1.3 Abbreviated course title: Mobile App Development
1.4 Credit hours: 3 Variable credit (yes or no): no
1.5 Grade type: Standard letter grade
1.6 Prerequisites: Grade of C or better in CS 221
1.7 Course description:
Introduces and explores mobile app programming, important environment features; and mobile app development frameworks, architecture, and design.

2. Rationale:

2.1 Reason for developing the proposed course:
Today's applications are increasingly mobile. Computers are no longer confined to desks and laps but instead live in our pockets and hands. This course teaches students how to build apps for mobile devices.

2.2 Projected enrollment in the proposed course:
One session per year; 15-20 students per year

2.3 Relationship of the proposed course to courses now offered by the department:
No similar courses offered by the department

2.4 Relationship of the proposed course to courses offered in other departments:
No similar course offered by other department

2.5 Relationship of the proposed course to courses offered in other institutions:
Some universities offer a similar course at upper division level, such as the Michigan State University (CSE 476, Mobile Application Development), Arizona State University (CSE 494, Mobile Application Development), and Northern Kentucky University (CSC 415, Android Mobile App Development).

3. Discussion of proposed course:

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

3.2 Learning Outcomes:

- Understand the unique aspects of mobile application design.
- Critique mobile applications on their design pros and cons.
- Utilize rapid prototyping techniques to design and develop sophisticated mobile interfaces.
- Develop mobile app with user interactions
- Develop mobile app with data sources.
- Develop mobile app with location awareness and hardware sensors.
- Understand how to deploy mobiles.

3.3 Content outline:

- Characteristics of mobile applications
- Platforms overview
- Graphical User Interface and design principles
- How to respond user interaction, such as touch gestures
- How to work with locations and maps
- Storing and retrieving data
- How to access hardware sensors
- Testing methodologies for mobile applications
- How to deploy mobile apps
- Mobile security

3.4 Student expectations and requirements:
Students are expected to attend class (lab) and to complete assignments. They are expected to complete a term project.

3.5 Tentative texts and course materials:
Introduction to Android Application Development: Android Essentials, 5th Edition, by Joseph Annuzzi, Lauren Darcey, Shane Conder published Dec 18, 2015 by Addison-Wesley Professional.
ISBN-10: 0-13-438945-X

Android Programming Concepts by Trish Cornez, Richard Cornez
Jones & Bartlett Learning; Pap/Psc edition (October 9, 2015)
ISBN-10: 1284070700

Beginning iPhone Development with Swift: Exploring the iOS SDK, David Mark , Jack Nutting , Kim Topley , Fredrik Olsson , Jeff LaMarche, ISBN13: 978-1-484204-10-8, 2014

4. **Resources:**
   - 4.1 Library resources:
     None
   - 4.2 Computer resources:
     Existing computer lab

5. **Budget implications:**
   - 5.1 Proposed method of staffing:
     Existing faculty
   - 5.2 Special equipment needed:
     Current departmental resources are sufficient
   - 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 Computer Science	April 7, 2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 5/4/17

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

Contact Person: Stacy Wilson, stacy.wilson@wku.edu, 56394

1. Identification of proposed course:

1.1 Course prefix (subject area) and number: ENGR 490
1.2 Course title: Senior Seminar
1.3 Abbreviated course title: Senior Seminar
(maximum of 30 characters or spaces)
1.4 Credit hours: 2 Variable credit (yes or no) : no
1.5 Grade type: standard letter grade
1.6 Prerequisites/corequisites: Senior standing in an engineering discipline and consent of instructor
1.7 Course description: Seminar course focused professional topics including project management including the proposal for a multidisciplinary engineering capstone project.

2. Rationale:

2.1 Reason for developing the proposed course: This course is being created to offer a multidisciplinary senior seminar opportunity to engineering students. Multidisciplinary teamwork is required by ABET, the accrediting body for engineering programs.
2.2 Projected enrollment in the proposed course: 20 students per year
2.3 Relationship of the proposed course to courses now offered by the department: CE 400, EE 400, and ME 400 are discipline specific senior seminar courses currently offered in the department. ENGR 490 and ENGR 491 will comprise the capstone design sequence for engineering students on multidisciplinary projects. These courses are composed of the following steps:

- Initiating the project (ENGR 490)
- Planning the project (ENGR 490)
- Executing the project (ENGR 491)
- Monitoring and controlling the project (ENGR 491)
- Closing the project (ENGR 491)

2.4 Relationship of the proposed course to courses offered in other departments: Senior seminar courses are common across campus. These courses such as MATH 498 and PSYS 499 serve as culminating experiences in the curricula.
2.5 Relationship of the proposed course to courses offered in other institutions: All ABET accredited engineering programs are required to have a senior capstone experience. It is very common to have a senior seminar course which prior to the capstone design project to prepare students.

3. Discussion of proposed course:

3.1 Schedule type: S

3.2 Learning Outcomes: The learning outcomes of this course include further developing the design skills of engineering students, develop teamwork skills, explore engineering ethics, and design and write the senior project proposal.

3.3 Content outline:

- Project Management
- Post graduation opportunities
- Professional Ethics
- Teamwork
- Professional Licensure

3.4 Student expectations and requirements: Students are expected to complete assignments culminating in a project management plan for their senior project to be executed in the following course.

3.5 Tentative texts and course materials: Instructor provided materials

4. Resources:

4.1 Library resources: This course will use the same library resources as the existing CE 400, EE 400, and ME 400.

4.2 Computer resources: This course will use the same computing resources as the existing CE 400, EE 400, and ME 400.

5. Budget implications:

5.1 Proposed method of staffing: Current Engineering faculty. This course will be cross listed with the other senior seminar courses.

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/ Unit Engineering	**5/4/17**
OSCE College Curriculum Committee	
Professional Education Council (if applicable)	
General Education Committee (if applicable)	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 5/4/17

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

Contact Person: Stacy Wilson, stacy.wilson@wku.edu, 56394

1. Identification of proposed course:

1.1 Course prefix (subject area) and number: ENGR 491
1.2 Course title: Senior Project
1.3 Abbreviated course title: Senior Project
(maximum of 30 characters or spaces)
1.4 Credit hours: 3 Variable credit (yes or no) : no
1.5 Grade type: standard letter grade
1.6 Prerequisites/corequisites: ENGR 490
1.7 Course description: Students work in multidisciplinary teams to execute project designed during ENGR 490. Must be taken in the semester immediately following ENGR 490.

2. Rationale:

2.1 Reason for developing the proposed course: This course is being created to offer a multidisciplinary capstone design opportunity to engineering students. Multidisciplinary teamwork is required by ABET, the accrediting body for engineering programs.
2.2 Projected enrollment in the proposed course: 20 students per year
2.3 Relationship of the proposed course to courses now offered by the department: CE 498, EE 401, and ME 412 are discipline specific capstone design courses currently offered in the department. ENGR 490 and ENGR 491 will comprise the capstone design sequence for engineering students on multidisciplinary projects. These courses are composed of the following steps:

- Initiating the project (ENGR 490)
- Planning the project (ENGR 490)
- Executing the project (ENGR 491)
- Monitoring and controlling the project (ENGR 491)
- Closing the project (ENGR 491)

2.4 Relationship of the proposed course to courses offered in other departments: Capstone design courses are common across campus. These courses such as PHIL 496 and RELS 496 serve as capstone design in the curricula.
2.5 Relationship of the proposed course to courses offered in other institutions: All ABET accredited engineering programs are required to have a senior capstone experience.

3. Discussion of proposed course:

3.1 Schedule type: S
3.2 Learning Outcomes: The learning outcomes of this course include project execution and documentation, troubleshooting, teamwork and professional presentation skills.

3.3 Content outline:

- Project Execution
- Troubleshooting
- Documentation
- Dissemination

3.4 Student expectations and requirements: Students are expected to participate in the capstone project. Students are also expected to present the results of the project in both oral and written forms.

3.5 Tentative texts and course materials: none

4. Resources:

4.1 Library resources: This course will use the same library resources as the existing CE 498, EE 401, and ME 412.

4.2 Computer resources: This course will use the same computing resources as the existing CE 498, EE 401, and ME 412.

5. Budget implications:

5.1 Proposed method of staffing: Current Engineering faculty. This course will be cross listed with the other senior seminar courses.

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 Engineering	**5/4/17**
OSCE College Curriculum Committee	
Professional Education Council (if applicable)	
General Education Committee (if applicable)	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 04/01/2016

Ogden College of Science & Engineering
Department of Architectural & Manufacturing Sciences
Proposal to Revise A Program
(Action Item)

Contact Person: Neal Downing, AIA, neal.downing@wku.edu, 270-745-6302

1. Identification of program:

1.1 Current program reference number: 518
1.2 Current program title: Architectural Science
1.3 Credit hours: 89

2. Identification of the proposed program changes:

- Remove requirement of PHYS 201 in the additional courses required in the major.
- Remove requirement of SFTY 171 in the additional courses required in the major.
- Add 3 hours as Architectural Science Electives in the major.
- Add options for Principles of Economics in the additional courses required in the major.

3. Detailed program description:

Architectural Science	(Old)	89		Architectural Science	(New)	87
Intro to Occupational Safety	AMS 140	1		Intro to Occupational Safety	AMS 140	1
Architectural Graphics	AMS 151	3		Architectural Graphics	AMS 151	3
Architectural Drafting	AMS 163	3		Architectural Drafting	AMS 163	3
Intro to Architecture	AMS 180	3		Intro to Architecture	AMS 180	3
3D Modeling & Imaging	AMS 251	3		3D Modeling & Imaging	AMS 251	3
Construction Methods & Materials	AMS 261	3		Construction Methods & Materials	AMS 261	3
Construction Methods & Materials Lab	AMS 262	1		Construction Methods & Materials Lab	AMS 262	1
Architectural Documentation I	AMS 263	3		Architectural Documentation I	AMS 263	3
Architectural Detailing	AMS 273	3		Architectural Detailing	AMS 273	3
Architectural Structures	AMS 282	3		Architectural Structures	AMS 282	3
Building Codes	AMS 305	3		Building Codes	AMS 305	3
Survey of Building Systems	AMS 325	3		Survey of Building Systems	AMS 325	3
AMS 351 Building Info Modeling	AMS 351	3		AMS 351 Building Info Modeling	AMS 351	3
Architectural Documentation II	AMS 363	3		Architectural Documentation II	AMS 363	3
Architectural Design Studio I	AMS 369	4		Architectural Design Studio I	AMS 369	4
Quality Assurance	AMS371	3		Quality Assurance	AMS371	3
Project Management	AMS390	3		Project Management	AMS390	3
Internship I	AMS398	1		Internship I	AMS398	1

Technology Mgmt./Sup./Team Blding	AMS430	3		Technology Mgmt./Sup./Team Blding	AMS430	3
Architectural Design Studio II	AMS 469	4		Architectural Design Studio II	AMS 469	4
Comprehensive Design	AMS 488	3		Comprehensive Design	AMS 488	3
Senior Research	AMS490	3		Senior Research	AMS490	3
Construction Management	CE 303	3		Construction Management	CE 303	3
Construction Management Lab	CE 304	1		Construction Management Lab	CE 304	1
Business Writing or Technical Writing	ENG 306 or 307	3		Business Writing or Technical Writing	ENG 306 or 307	3
Management Elective		3		Management Elective		3
Architectural Science Elective		6		**Architectural Science Elective**		**9**
Additional Required Courses for Major						
Math 117 or higher	MATH 117	3		Math 117 or higher	MATH 117	3
~~Safety and First Aid~~	~~SFTY 171~~	~~1~~		**Drop**		
Principles of Econ (Micro)	ECON 202	3		**Intro to Economics or Principles of Economics (Micro) or Principles of Economics (Macro) or Moral Issues of Capitalism or Economics, Law, and Public Choice or Financial Management**	**ECON 150 or ECO 150 or ECON 202 or ECO 202 or ECON 203 or ECO 203 or ECON 375 or ECON 390 or BUS 160C**	3
~~College Physics I~~	~~PHYS 201~~	4		**Drop**		
Technical Hours:		**89**		**Technical Hours:**		**87**

4. **Rationale for the proposed program change:**
   - Remove PHYS 201
     The current syllabus of AMS 282 covers vectors which was the primary rationale for requiring PHYS 201.
   - Remove SFTY 171
     This course is not a part of the new Colonnade Program. Most companies include safety and first aid training in their orientation of new employees.
     Aspects of safety are also covered in courses such as AMS 140 and AMS 262.
   - Add 3 additional hours of Architectural Science Electives
     Adding to the number of elective hours enables students to explore their areas of interest and focus on specialty topics.
   - Add ECON 150 or ECO 150 or ECO 202 or ECON 203 or ECO 203 or ECON 375 or ECON 390 or BUS 160C as option for ECON 202
     This provides more scheduling options for courses in the economics area and gives students more choices, depending upon their goals.

5. **Effective Catalog Year:** 2016- 2017

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

Department of Architectural & Manufacturing Sciences	4/1/2016
OCSE Curriculum Committee	
Professional Education Council (if applicable)	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 5/4/17

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

Contact Person: Stacy Wilson, stacy.wilson@wku.edu, 56394

1. **Identification of program:**
   - 1.1 Current program reference number:
   - 1.2 Current program title:
   - 1.3 Credit hours:

2. **Identification of the proposed program changes:** Add a pre-major to Engineering

3. **Detailed program description:**

Current	Proposed
Engineers turn dreams into reality. Engineering is the process of designing solutions to real world problems using mathematical and scientific principles. It merges creative thinking with analytical skills to create systems and processes such as automobiles, buildings, bridges, computers, electrical systems, manufacturing processes, and software. Engineering is a primary difference between our modern world and primitive societies. The engineering programs at Western Kentucky University are dedicated to teaching the practice of engineering to undergraduate students in a project-based environment. Beginning with the first freshman class and progressing through the last senior class, engineering students at WKU engage in the practice of engineering under the instruction and guidance of degreed, practicing engineers. Engineering at WKU differs from most other institutions because its faculty is dedicated exclusively to undergraduate engineering education and to engaging students in the practice of engineering without the requirement of supervising graduate research. Many studies have shown that the educational methodologies employed by engineering faculty at WKU are not only the most enjoyable and interesting for students; they are also a more effective way to learn engineering. The Department of Engineering offers Bachelor of Science degrees in the following areas: • Civil Engineering (reference number 534) • Electrical Engineering (reference number 537) • Mechanical Engineering (reference number 543) The WKU Engineering programs -- civil engineering, electrical engineering, and mechanical engineering – are accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.	Engineers turn dreams into reality. Engineering is the process of designing solutions to real world problems using mathematical and scientific principles. It merges creative thinking with analytical skills to create systems and processes such as automobiles, buildings, bridges, computers, electrical systems, manufacturing processes, and software. Engineering is a primary difference between our modern world and primitive societies. The engineering programs at Western Kentucky University are dedicated to teaching the practice of engineering to undergraduate students in a project-based environment. Beginning with the first freshman class and progressing through the last senior class, engineering students at WKU engage in the practice of engineering under the instruction and guidance of degreed, practicing engineers. Engineering at WKU differs from most other institutions because its faculty is dedicated exclusively to undergraduate engineering education and to engaging students in the practice of engineering without the requirement of supervising graduate research. Many studies have shown that the educational methodologies employed by engineering faculty at WKU are not only the most enjoyable and interesting for students; they are also a more effective way to learn engineering. The Department of Engineering offers Bachelor of Science degrees in the following areas: • Civil Engineering (reference number 534) • Electrical Engineering (reference number 537) • Mechanical Engineering (reference number 543) The School of Engineering and Applied Sciences also offers a pre-major that provides an opportunities for the exploration of all areas of engineering before moving into one of the above majors.

The Department of Engineering offers minors in electrical engineering (reference number 354), land surveying (reference number 405), systems engineering (reference number 476), and floodplain management (reference number (361), as well as a certificate in land surveying (reference number 1700). ..... Details of the curriculum and course information can be found at www.wku.edu/engineering or by contacting the Department of Engineering.	The WKU Engineering programs -- civil engineering, electrical engineering, and mechanical engineering – are accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org. The Department of Engineering offers minors in electrical engineering (reference number 354), land surveying (reference number 405), systems engineering (reference number 476), and floodplain management (reference number (361), as well as a certificate in land surveying (reference number 1700). The pre-Engineering (reference #) curriculum includes a grade of "C" or better in the following: • **College Composition** • **Human Communication** • **MATH 136** • **MATH 137** • **PHYS 255/256** • **GEOL 111 or CHEM 116 or CHEM 120 or PHYS 265** Details of the curriculum and course information can be found at www.wku.edu/seas or by contacting the School of Engineering and Applied Sciences.

4. **Rationale for the proposed program change:** Many students enroll as engineering majors before determining which engineering discipline they would like to student. Also, many KCTCS programs better aligns with a pre engineering major rather than a engineering discipline specific pre major.

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

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

Department/School	Date of Approval
Department of Engineering	5/4/17
Ogden College of Science and Engineering	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 5/1/17

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

Contact Person: Shane M. Palmquist, shane.palmquist@wku.edu, 745-2919

1. Identification of program:

1.1	Current program reference number:	534P
1.2	Current program title:	Civil Engineering-Prep
1.3	Current credit hours:	38 or 39
	Proposed credit hours:	25

2. Identification of the proposed program changes:

- Delete from the pre-major CE 176 Civil Engineering Freshman Design (1 cr.), AMS 163 Architectural Drafting (3), MATH 237 Multivariable Calculus (4) or MATH 331 Differential Equations (3), Principles of Surveying and Lab CE 160/161 (3/1 cr.), and CHEM 120 and 121.

- Add to the pre-major GEOL 111 The Earth (3 cr.).

- Decrease the number of credit hours in the pre-major from 38 or 39 to 25.

3. Detailed program description:

The existing statement in the undergraduate catalog is:

To transition from pre-major to major and to graduate with a degree in civil engineering, students must complete each of the following courses and labs with a grade of "C" or better: CE 176, AMS 163, ENG 100, CE 160 and 161, EM 221 or 222, COMM 145 or 161, MATH 136 and 137, MATH 237 or 331, PHYS 255 and 256, and CHEM 120 and 121.

The proposed statement in the undergraduate catalog is:

To transition from pre-major to major and to graduate with a degree in civil engineering, students must complete each of the following courses and labs with a grade of "C" or better: ENG 100, COMM 145, MATH 136 and 137, PHYS 255 and 256, EM 222, and GEOL 111.

For a side by side comparison, see the next page.

Current Program Courses	Hrs	Proposed Program Courses	Hrs
CE 176 Civil Engineering Freshman Design	1	~~**CE 176 Civil Engineering Freshman Design**~~	~~**1**~~
AMS 163 Architectural Drafting	3	~~**AMS 163 Architectural Drafting**~~	~~**3**~~
MATH 136 Calculus I	4	MATH 136 Calculus I	4
MATH 137 Calculus II	4	MATH 137 Calculus II	4
MATH 237 Multivariable Calculus or MATH 331 Differential Equations	4 or 3	~~**MATH 237 Multivariable Calculus**~~ ~~**or**~~ ~~**MATH 331 Differential Equations**~~	~~**4 or 3**~~
CE 160 Principles of Surveying	3	~~**CE 160 Principles of Surveying**~~	~~**3**~~
CE 161 Principles of Surveying Lab	1	~~**CE 161 Principles of Surveying Lab**~~	~~**1**~~
ENG 100 Freshman English	3	ENG 100 Freshman English	3
PHYS 255 University Physics I	4	PHYS 255 University Physics I	4
PHYS 256 University Physics I Lab	1	PHYS 256 University Physics I Lab	1
EM 221 or 222 Statics	3	EM ~~**221 or**~~ 222 Statics	3
COMM 145 Fund. of Public Speaking	3	COMM 145 Fund. of Public Speaking	3
CHEM 120 College Chemistry I	4	~~**CHEM 120 College Chemistry I**~~	~~**4**~~
CHEM 121 College Chemistry I Lab	1	~~**CHEM 121 College Chemistry I Lab**~~	~~**1**~~
		GEOL 111 The Earth	**3**

Total hours = 38 or 39 **Total hours = 25**

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

   - The program/department would like to reduce the number of classes to transition from pre-major to the major. The remaining courses are to be important key courses as they proceed through the major.

5. **Proposed term for implementation:** Spring 2018

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

   Department of Engineering May 4, 2017

   Ogden College Curriculum Committee _____

   Undergraduate Curriculum Committee _____

   University Senate _____

Proposal Date: 5/2/2017

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

Contact Person: Shane M. Palmquist
Shane.Palmquist@wku.edu
270-745-2919

1. Identification of program:

1.1 Current program reference number: 534
1.2 Current program title: Engineering-Civil
1.3 Credit hours: Current: 130 Proposed: 130

2. Identification of the proposed program changes:

- Remove from the major the following courses CE 331 Transportation Engineering; CE 341 Fluid & Thermal Science; CE 351 Intro to Environmental Engineering; CE 373 Structural Analysis; CE 483 Elementary Structural Design; EM 221 Statics; and EM 302 Mechanics of Deformable Bodies.

- Require students in the major to register for CE 400 or ENGR 490 Senior Seminar (2 credit hours) and CE 498 or ENGR 491 Senior Project (3 credit hours).

- Require students to take 6 of the 9 credit hours of technical engineering elective from courses taught by engineering faculty and not just by civil engineering faculty.

- Require students to earn a grade of "C or better" in all major courses except for one.

3. Detailed program description:

CE Current Program

Prefix	#	Course Title	Hrs.
CE ME EE	176 176 101	CE Fresh Design, ME Fresh Design, or EE Design I	1
CE	160	Prin. of Surveying	3
CE	161	Surveying Lab	1
CE	303	Constr. Management	3

CE Proposed Program

Prefix	#	Course Title	Hrs.
CE ME EE	176 176 101	CE Freshman Design, ME Freshman Design, or EE Design I	1
CE	160	Prin. of Surveying	3
CE	161	Surveying Lab	1
CE	303	Constr. Management	3

Prefix	#	Course Title	Hrs.		Prefix	#	Course Title	Hrs.
CE	304	Constr. Management Lab	1		CE	304	Constr. Management Lab	1
CE	305	Risk Analysis	3		CE	305	Risk Analysis	3
CE	310	Strengths Lab	1		CE	310	Strengths Lab	1
CE	316	Equip. & Methods	3		CE	316	Equip. & Methods	3
CE	331	Transportation Eng.	3		CE	~~331~~ 332	Transportation Eng.	3
CE	341 342	Fluid & Thermal Science	4		CE	~~341~~ 342	Fluid & Thermal Science	4
CE	351 352	Intro. to Environmental Engineering	3		CE	~~351~~ 352	Intro. to Environmental Engineering	3
CE	370	Materials of Construction	2		CE	370	Materials of Construction	2
CE	371	Matls. of Constr. Lab	1		CE	371	Matls. of Constr. Lab	1
CE	382 373	Structural Analysis	3		CE	382 ~~373~~	Structural Analysis	3
CE	384 482 483	Civil Engineering Design Course	3		CE	384 482 ~~483~~	Civil Engineering Design Course	3
CE	410	Soil Mechanics	3		CE	410	Soil Mechanics	3
CE	411	Soil Mechanics Lab	1		CE	411	Soil Mechanics Lab	1
CE	412	Foundation Eng.	3		CE	412	Foundation Eng.	3
CE	461	Hydrology	3		CE	461	Hydrology	3
CE	400	Senior Design Seminar	1		CE **ENGR**	400 **490**	Senior Design Seminar	2
CE	498	Senior Project	3		CE **ENGR**	498 **491**	Senior Project	3
CE		Technical Elective*	3		CE		Technical Elective*	3
CE		Technical Elective*	3		CE		Technical Elective*	3
CE		Technical Elective*	3		CE		Technical Elective*	3
AMS	163	Arch. Drafting	3		AMS	163	Arch. Drafting	3
EM	221 222	Statics	3		EM	~~221~~ 222	Statics	3
EM	302 303	Mechanics of Deformable Bodies	3		EM	~~302~~ 303	Mechanics of Deformable Bodies	3
TOTALS		Credit Hours	68		TOTALS		Credit Hours	68

Other Requirements

Other Proposed Requirements

Prefix	#	Course Title	Hrs.		Prefix	#	Course Title	Hrs.
MATH	136	Calculus I	4		MATH	136	Calculus I	4
MATH	137	Calculus II	4		MATH	137	Calculus II	4

Prefix	#	Course Title	Hrs.		Prefix	#	Course Title	Hrs.
MATH	237	Multivariable Calculus	4		MATH	237	Multivariable Calculus	4
MATH	331	Differential Equations	3		MATH	331	Differential Equations	3
PHYS	255	University Physics I	4		PHYS	255	University Physics I	4
PHYS	256	Physics I Lab	1		PHYS	256	Physics I Lab	1
		Science or Math Elective (See list below.)**	3				Science or Math Elective (See list below.)**	3
CHEM	120	College Chemistry I	3		CHEM	120	College Chemistry I	3
CHEM	121	Chemistry I Lab	2		CHEM	121	Chemistry I Lab	2
GEOL	111	The Earth	3		GEOL	111	The Earth	3
GEOL	113	The Earth Lab	1		GEOL	113	The Earth Lab	1
TOTALS		Credit Hours	32		TOTALS		Credit Hours	32

CE Current Program

*Students are required to complete a total of 9 credit hours of technical electives in civil engineering or a related field. A minimum of 6 credit hours must come from CE prefixed courses.

CE Proposed Program

*Students are required to complete a total of 9 credit hours of technical electives in civil engineering or a related field. A minimum of 6 credit hours must come from ~~**CE prefixed**~~ **courses taught by engineering faculty.**

Current CE Technical Electives

Proposed CE Technical Electives

Prefix	#	Course Title	Hrs.		Prefix	#	Course Title	Hrs.
CE	300	Floodplain Management	3		CE	300	Floodplain Management	3
CE	301	Field Experience in Floodplain Management	3		CE	301	Field Experience in Floodplain Management	3
CE	326	Engineering Law	3		CE	326	Engineering Law	3
CE	360	Est., Scheduling Bidding	3		CE	360	Est., Scheduling Bidding	3
CE	361	Estimating Lab	1		CE	361	Estimating Lab	1
CE	378	Boundary Surveying	3		CE	378	Boundary Surveying	3
CE	379	Boundary Surveying. Lab	1		CE	379	Boundary Surveying. Lab	1
CE	380	Route Surveying	3		CE	380	Route Surveying	3
CE	381	Route Surveying Lab	1		CE	381	Route Surveying Lab	1
CE	383	Structural Steel Design	3		CE	383	Structural Steel Design	3

Prefix	#	Course Title	Hrs.		Prefix	#	Course Title	Hrs.
CE	426	Adv. Construction Matls.	3		CE	426	Adv. Construction Matls.	3
CE	436	Design / Constr. Integration	3		CE	436	Design / Constr. Integration	3
CE	440	Masonry Constr.	3		CE	440	Masonry Construction	3
CE	444	Bridge Engineering	3		CE	444	Bridge Engineering	3
CE	462	Hydraulic Engineering	3		CE	462	Hydraulic Engineering	3
CE	474	Civil Eng. Design Project	1-3		CE	474	Civil Eng. Design Project	1-3
CE	475	Sel. Topics in Civil Eng.	3		CE	475	Sel. Topics in Civil Eng.	3
CE	476	Highway Construction	3		CE	476	Highway Construction	3
CE	486	Steel & Concrete Constr.	3		CE	486	Steel & Concrete Constr.	3
CE	490	UK-CE Sel. Topics (Fall)	3		CE	490	UK-CE Sel. Topics (Fall)	3
CE	491	UK-CE Sel. Topics (Spr)	3		CE	491	UK-CE Sel. Topics (Spr)	3
CM	363	Constr. Est. and Bidding	3		CM	363	Constr. Est. and Bidding	3
CM	400	Constr. Administration	3		CM	400	Constr. Administration	3
CM	426	Construction Law	3		CM	426	Construction Law	3
EE	350	Fund. of Electrical Eng.	4		EE	350	Fund. of Electrical Eng.	4
EM	313	Dynamics	3		EM	313	Dynamics	3
GISC	317	Geog. Info. Systems	4		GISC	317	Geog. Info. Systems	4
ME	220	Eng. Thermodynamics	3		ME	220	Eng. Thermodynamics	3
GISC	316	Fundamentals of GIS	4		GISC	316	Fundamentals of GIS	4
GEOL	308	Structural Geology	4		GEOL	308	Structural Geology	4
GEOL	310	Global Hydrology	3		GEOL	310	Global Hydrology	3
GEOL	415	Environmental Geology	3		GEOL	415	Environmental Geology	3
ENGR	400	Systems Engineering	3		ENGR	400	Systems Engineering	3
AMS	305	Building Codes	3		AMS	305	Building Codes	3
AMS	325	Surv. of Building Systems	3		AMS	325	Surv. of Building Systems	3
MATH	350	Adv. Engineering Math	3		MATH	350	Adv. Engineering Math	3

**Proposed List of Courses to Satisfy the Science or Math Elective

Prefix	#	Course Title	Hrs.
PHYS	265/266	University Physics II & Lab	4/1
MATH	307	Linear Algebra	3
MATH	370	Applied Tech. in Mathematics	3
STAT	301	Prob. & Applied Statistics	3
CHEM	222/223	College Chemistry II & Lab	3/2
GEOG	280	Envir. Sc. & Sustainability	4
GEOL	311	General Oceanography	3
GEOL	420	Geomorphology	4
GEOL	445	Aqueous Geochemistry	3
GEOL	465	Geophysics	3

CE Current Program:
Students must have a grade of "C" or better in:

- All premajor courses,
- All math courses,
- Science or math elective,
- EM 302 or 303 Mechanics of Deformable Solids,
- All CE courses including technical electives (except for one (1) 300-level or 400-level CE course),

CE Proposed Program:
Students must have a grade of "C" or better in:

- All premajor courses, and
- **All major courses except for one.**

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

- The CE program is removing from the major the following courses CE 331 Transportation Engineering; CE 341 Fluid & Thermal Science; CE 351 Intro to Environmental Engineering; CE 373 Structural Analysis; CE 483 Elementary Structural Design; EM 221 Statics; and EM 302 Mechanics of Deformable Bodies. These courses are being deleted. See other paper work for these deletions. These courses were required when students were part of the joint WKU/UK CE program, and these students were required to obtain 15 hours in the major from courses taught by UK faculty. These courses were only taught by UK faculty, and were counted by ICAP to meet this requirement. However, WKU now offers a standalone CE program, and no students are in the old joint program. Current students in the standalone CE program will still be required to take these courses just with a different course numbering. The courses are: CE 332 Transportation Engineering; CE 342 Fluid & Thermal Science; CE 352 Intro to Environmental Engineering; CE 382 Structural Analysis; CE 482 Elementary Structural Design; EM 222 Statics; and EM 303 Mechanics of Deformable Bodies.

- ENGR 490 and 491 are new courses being proposed. They are being created so senior students majoring in civil engineering can register for a multidisciplinary engineering senior

project. CE 400 and 498 are both existing courses for majors registering for a civil engineering senior project.

- The CE program faculty feel that 6 of the 9 required credit hours in technical electives can come from courses taught by engineering faculty and not just courses taught by civil engineering faculty. Thus, civil engineering students will have more choices.

- The program would like to simplify the grade of "C or better" requirement. Students need to earn a grade of "C or better" in all premajor and major courses. However, students may earn a grade of "D" in a single major course.

5. **Proposed term for implementation:** Spring 2018

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

Department of Engineering	05/04/2017
Ogden College Curriculum Committee	
Undergraduate Curriculum Committee	
University Senate	

Proposal Date: 5/2/2017

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

Contact Person: Walter Collett email: walter.collett@wku.edu phone: 5-2016

1. **Identification of program:**
   - 1.1 Current program reference number: 537
   - 1.2 Current program title: Electrical Engineering
   - 1.3 Credit hours: 57

2. **Identification of the proposed program changes:**
   - Increase the number of credit-hours in program from 57 to 58
   - EE 400 has increased from 1.0 to 2.0 hours
   - Add BIOL 122, BIOL 131, and METR 121 to list of approved science electives
   - Remove EM 221 from the list of approved Engineering/Science electives
   - Add MATH 305 and PHYS 316 to the list of approved Engineering/Science electives
   - Add ENGR 360 to the list of approved EE Technical Electives
   - Permit students to take ENGR 490 in lieu of EE 400
   - Permit students to take ENGR 491 in lieu of EE 401
   - Modify the admission standards into the Electrical Engineering Program as follows:

     PHYS 256, CS 239, EE 101, and EE 180 will remain required courses but not be in the admission standard (i.e., pre-major) to the program. NOTE: Students may still replace CS 239 with either CS 240 or CS 180; also, the older version (EE 175) of EE Design will still be accepted in place of EE 101.

     COMM 145 will be replaced with a Human Communication (F-OC) course.

3. **Detailed program description:**

Current Program			**Proposed Program**		
EE 101	Design I	1	EE 101	Design I	1
EE180	Digital Circuits	3	EE180	Digital Circuits	3
EE200	Design II	2	EE200	Design II	2
EE210	Circuits & Networks I	3.5	EE210	Circuits & Networks I	3.5
EE211	Circuits & Networks II	3.5	EE211	Circuits & Networks II	3.5
EE300	Design III	1	EE300	Design III	1
EE345	Electronics	4	EE345	Electronics	4
EE380	Microprocessors	4	EE380	Microprocessors	4
EE400	Design IV	1	EE400	Design IV	2

EE401 Senior Design	3
EE420 Signals & Linear Systems	3
EE431 Intro. to Power Systems	3.5
EE460 Cont. Control Systems	3.5
EE473 EM Fields & Waves	3
or	
PHYS 440 Electricity and Magnetism	3
EE Technical Electives	12
Engineering/Science Electives	6
Tech. Course Total: 57	
Other Requirements	
MATH136 Calculus I	4
MATH137 Calculus II	4
MATH237 Multivariable Calculus	4
MATH331 Differential Equations	3
Math Elective	3
STAT301 Probability & Statistics	3
PHYS255 University Physics I	4
PHYS256 University Physics I Lab	1
PHYS265 University Physics II	4
Science Elective	3
CS239 Prob Solving Comp Tech	3
ECON ECON 202 or ECON 203	3
Other Hours: 39	

or	
ENGR490	**2**
EE401 Senior Design	3
or	
ENGR491	**3**
EE420 Signals & Linear Systems	3
EE431 Intro. to Power Systems	3.5
EE460 Cont. Control Systems	3.5
EE473 EM Fields & Waves	3
or	
PHYS 440 Electricity and Magnetism	3
EE Technical Electives	12
Engineering/Science Electives	6
Tech. Course Total: **58**	
Other Requirements	
MATH136 Calculus I	4
MATH137 Calculus II	4
MATH237 Multivariable Calculus	4
MATH331 Differential Equations	3
Math Elective	3
STAT301 Probability & Statistics	3
PHYS255 University Physics I	4
PHYS256 University Physics I Lab	1
PHYS265 University Physics II	4
Science Elective	3
CS239 Prob Solving Comp Tech	3
ECON ECON 202 or ECON 203	3
Other Hours: 39	

Engineering/Science Electives (take at least 6 hours)

~~**EM 221 or**~~ EM 222 or PHYS 350
ME 365 or ME 220 or PHYS 330
ME 240 Materials and Methods of Manufacturing
ME 330 or CE 341 or CE 342
PHYS 450 Classical Mechanics II
PHYS 318 Data Acquisition Using Labview
ENGR 400 Principles of Systems Engineering
MATH 305 Introduction to Mathematical Modeling
PHYS 316 Computational Physics

EE Technical Elective (take at least 12 hours)
EE 405 EE Senior Research Seminar
EE 410/411 Computer Design
EE 432 Power Systems II
EE 443 Microfabrication and Mems
EE 445 Advanced Electronics
EE 450/451 Digital Signal Processing
EE 461 Discrete Control Sys
EE 462 Special Topics in Control
EE 470/475 Communications
EE 477 Num Tech. in Electromagnetics
EE 479 Optoelectronics
EE 480 Embedded Systems
EE 490 Robotics
ENGR 360 System Dynamics and Modeling

Math Elective (take at least 3 hours)
MATH 307 Linear Algebra
MATH 350 Advanced Engineering Math
MATH 370 Applied Techniques in Math

Science Electives (take at least 3 hours)
CHEM 116 Intro to College Chemistry
CHEM 120 College Chemistry I
BIOL 120 Biological Concepts
ENV 280 Intro to Environmental Science
GEOL 111 The Earth
BIOL 122 Biological Concepts: Evolution, Diversity, and Ecology
BIOL 131 Human Anatomy and Physiology
METR 121 Meteorology

Current

Academic Standards for the WKU/UofL Joint Electrical Engineering Program
Students are admitted as a pre-major in Electrical Engineering. In order to transition from the pre-major to major and to graduate with a degree in Electrical Engineering, students must complete the following courses earning a grade of "C" or better.

EE 101	EE Design I**	1 hr.
EE 180	Digital Circuits	4 hrs.
EE 210	Circuits & Networks I3.5 hrs.	
ENG 100	Composition	3 hrs.
COMM 145or161	Public Speaking	3 hrs.
MATH 136	Calculus I*	4 hrs.
MATH 137	Calculus II*	4 hrs.

Proposed

Academic Standards for the WKU/UofL Joint Electrical Engineering Program
Students are admitted as a pre-major in Electrical Engineering. In order to transition from the pre-major to major and to graduate with a degree in Electrical Engineering, students must complete the following courses earning a grade of "C" or better.

~~EE 101~~	~~EE Design I**~~	~~1 hr.~~
~~EE 180~~	~~Digital Circuits~~	~~4 hrs.~~
EE 210	Circuits & Networks I3.5 hrs.	
ENG 100	Composition	3 hrs.
~~COMM 145or161~~	~~Public Speaking~~	~~3 hrs.~~
	Human Communication (F-0C)	**3 hrs.**
MATH 136	Calculus I*	4 hrs.
MATH 137	Calculus II*	4 hrs.

PHYS 255/256	Physics I/Lab*	4 hrs.	PHYS 255/~~256~~	Physics I/~~Lab~~*	4 hrs.
PHYS 265	Physics II*	4 hrs.	PHYS 265	Physics II*	4 hrs.
CS 239	Problem Solving Comp Tech^	3 hrs.	~~CS 239~~	~~Problem Solving Comp Tech^~~	~~3 hrs.~~
*Older versions of Calculus and Physics are allowed (MATH 126, MATH 227, PHYS 250/251, PHYS 260/261)			*Older versions of Calculus and Physics are allowed (MATH 126, MATH 227, PHYS 250/~~251~~, PHYS 260)		
^ Students can replace CS 239 with (CS 240 or CS 180) ** Older version of EE Design I (EE 175) is also allowed			~~^ Students can replace CS 239 with (CS 240 or CS 180)~~ ~~** Older version of EE Design I (EE 175) is also allowed~~		

4. Rationale for the proposed program change:

- **Increase the number of credit-hours in program from 57 to 58.**
  EE 400 has increased from a 1.0 credit hour course to a 2.0 credit hour course.

- **EE 400 has increased from 1.0 to 2.0 hours.**
  All programs in the Department of Engineering require a two semester senior capstone experience. In order to harmonize of the programs it was decided that the first semester of the course should be given 2.0 credit hours. It is believed that the amount of work required in the course was undervalued at 1.0 credit hours. This change will also help harmonize the three different engineering programs and better allow multi-disciplined teams.

- **Add BIOL 122 to list of approved science electives**
  BIOL 122 – Biological Concepts: Evolution, Diversity, and Ecology – will be added as the similar course BIOL 120 – Biological Concepts: Cells Metabolism and Genetics – is currently on the list of approved science electives.

- **Add BIOL 131 to list of approved science electives**
  Students interested in biomedical engineering may be interested in this course as a science elective.

- **Add METR 121 to list of approved science electives**
  Adding this course to the list of approved science elective will provide more flexibility to students in satisfying the science requirement.

- **Remove EM 221 from list of approved Engineering/Science electives**
  EM 221 is a course offered by the University of Kentucky which was commonly taught when the engineering programs were joint with UK and U of L. The programs are no longer joint programs, and this course will no longer be taught to our students.

- **Add MATH 305 and PHYS 316 to the list of approved Engineering/Science electives.**
  Both courses are seen as very relevant to the practice of engineering and should be included in the list of approved Engineering/Science courses.

- **Add ENGR 360 to the list of approved EE Technical Electives**
  This course was developed specifically to teach to electrical engineering students and interested mechanical engineering students. The EE faculty agree that the content is acceptable in satisfying the goals of the EE Tech Elective category.

- **Permit students to take ENGR 490 in lieu of EE 400**
  The Engineering Department has developed a common version of the first-semester senior project experience, which will be acceptable to take in place of the current EE 400.

- **Permit students to take ENGR 491 in lieu of EE 401**
  The Engineering Department has developed a common version of the second-semester senior project experience, which will be acceptable to take in place of the current EE 401.

- **Modify the admission standards into the Electrical Engineering Program.**

  PHYS 256 will remain a required course but not be in the pre-major to the program.

  The physics department allows student to progress to PHYS 265 if they pass (with a "C" or higher) PHYS 255. Students who fail or earn a "D" in the lab are still allowed to progress to PHYS 265.

  Replace COMM 145 with the Human Communication (F-OC) requirement as part of the pre-major requirements. For most students this will be satisfied by COMM 145.

  CS 239, EE 101, and EE 180 will remain required courses but not be included in the pre-major courses. Removing these courses from the pre-major requirement will better align the Electrical Engineering program pre-major with the pre-majors in the Civil and Mechanical Engineering programs, and with the new 'Engineering' pre-major.

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

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

   Engineering Department: 5/4/2017

   Ogden College Curriculum Committee _____

   Undergraduate Curriculum Committee _____

University Senate

Attachment: Program Inventory Form

Proposal Date: 5/2/2017

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

Contact Person: Chris Byrne, email: chris.byrne@wku.edu, phone: 745-6286

1. **Identification of program:**
   - 1.1 Current program reference number: 543
   - 1.2 Current program title: Mechanical Engineering
   - 1.3 Credit hours: 60.5 hrs in technical courses, 32 or 33 hrs in mathematics and science, 30 hrs in colonnade for total of 122.5 or 123.5 hours.

2. **Identification of the proposed program changes:**
   - Add ENGR490 and ENGR 491 as senior project options to ME400 and ME412
   - Modify the admission standards into the Mechanical Engineering Program. The following courses will remain required but not be in the admission standard to the program; ME 176, ME 180, MATH 237, PHYS 265/266, and ME 240/241. Also COMM 145 or COMM 161 will be replaced with a Human Communication (F-OC). ENG 100 will be replaced with a College Composition (F-W1). All must have a grade of C or higher.
   - Remove the following courses from the list of approved mathematics and science electives; PH 280 (and equivalent), METR 121, GEOL 111, GEOL 112.
   - Add the following courses to the approved list of technical electives; ENGR 360, ENGR 400, EE 460, ME 321, PHYS 318.
   - Modify the academic standards for graduation by removing the following courses from the list of those requiring a grade of C or higher; ME 310, ME 330, ME 347, MATH 331.

3. **Detailed program description:**

Current Technical Courses		**Proposed Technical Courses**	
ME 176 Freshman Design	1	ME 176 Freshman Design	1
ME 180 Freshman Design II	3	ME 180 Freshman Design II	3
ME 240 Materials and Methods	3	ME 240 Materials and Methods	3
ME 241 Materials and Methods LAB	1	ME 241 Materials and Methods LAB	1
EM 221 UK Statics	3	~~EM 221 UK Statics~~	3
or EM 222, WKU Statics, 3hrs		~~or~~ EM 222, WKU Statics, 3hrs	
EE 210 Circuits & Networks 1	3.5	EE 210 Circuits & Networks 1	3.5
ME 200 Sophomore Design	3	ME 200 Sophomore Design	3
EM 313 Dynamics	3	EM 313 Dynamics	3
EM 302 UK Mechs. of D. Solids	3	~~EM 302 UK Mechs. of D. Solids~~	3
or EM303 WKU Mechs. of D. S.,3hrs		~~or~~ EM 303 WKU Mechs. of D. S., 3hrs	
ME 347 Mech. Systems Lab.	1	ME 347 Mech. Systems Lab.	1
ME 220 Engineering Thermo. I	3	ME 220 Engineering Thermo. I	3

ME 344	Mechanical Design	3
ME 300	Junior Design	2
ME 310	Eng. Instru. & Exp.	3
ME 330	Fluid Mechanics	3
ME 332	Fluids Mechanics Lab	1
ME 325	Heat Transfer	3
ME 333	Heat Transfer Lab	1
ME 400	Mech. Engr. Design	2
ME 412	ME Senior Project	3
ME Technical Elective		3
ME Technical Elective		3
ME Technical Elective		3
ME Technical Elective		3

Technical Course Total: 60.5

Other Requirements

MATH 136	Calculus I	4
MATH 137	Calculus II	4
MATH 237	Multivariable Calculus	4
MATH 331	Differential Equations	3
PHYS 255	University Physics I	4
PHYS 256	University Physics I Lab	1
PHYS 265	University Physics II	4
PHYS 266	University Physics II Lab	1
	Math/Science Elective	3
CHEM 120/121	College Chemistry 1/Lab	5
or CHEM 116/106		4

Other Required Mathematics and Science Hours: ***32 or 33***

Students must also satisfy the WKU Colonnade Program (General Education requirements)

ME 344	Mechanical Design	3
ME 300	Junior Design	2
ME 310	Eng. Instru. & Exp.	3
ME 330	Fluid Mechanics	3
ME 332	Fluids Mechanics Lab	1
ME 325	Heat Transfer	3
ME 333	Heat Transfer Lab	1
ME 400	Mech. Engr. Design	2
or ENGR 490, 2hrs		
ME 412	ME Senior Project	3
or ENGR 491, 3hrs		
ME Technical Elective		3
ME Technical Elective		3
ME Technical Elective		3
ME Technical Elective		3

Technical Course Total: 60.5

Other Requirements

MATH 136	Calculus I	4
MATH 137	Calculus II	4
MATH 237	Multivariable Calculus	4
MATH 331	Differential Equations	3
PHYS 255	University Physics I	4
PHYS 256	University Physics I Lab	1
PHYS 265	University Physics II	4
PHYS 266	University Physics II Lab	1
	Math/Science Elective	3
CHEM 120/121	College Chemistry 1/Lab	5
or CHEM 116/106		4

Other Required Mathematics and Science Hours: ***32 or 33***

Students must also satisfy the WKU Colonnade Program (General Education requirements)

Math/Science Electives (take at least 3 hours)

ASTR 214 GENERAL ASTRONOMY
BIOL 120/121 BIOLOGICAL CONCEPTS: CELLS METABOLISM AND GENETICS
BIOL 122/123: BIOLOGICAL CONCEPTS: EVOLUTION, DIVERSITY, AND ECOLOGY
BIOL 207: GENERAL MICROBIOLOGY

CHEM 222/223: COLLEGE CHEMISTRY II
PHYS 316: COMPUTATIONAL PHYSICS
PHYS 318: DATA ACQUISITION USING LABVIEW
PHYS 320: INTRODUCTORY MODERN PHYSICS I
MATH 305: INTRODUCTION TO MATHEMATICAL MODELING
MATH 307: INTRODUCTION TO LINEAR ALGEBRA
MATH 310: INTRODUCTION TO DISCRETE MATHEMATICS
MATH 370: APPLIED TECHNIQUES IN MATHEMATICS
STAT 301: INTRODUCTORY PROBABILITY AND APPLIED STATISTICS

ME Technical Elective (take at least 12 hours)
ME 494: WKU – ME Selected Topics
ME 495: WKU – ME Selected Projects
ME 496: WKU – ME Selected Topics
ME 497: WKU – ME Selected Topics
ME 498: UK – ME Selected Topics
ME 499: UK – ME Selected Topics
ENGR 360 MODELING AND SIMULATION OF DYNAMIC SYSTEMS
ENGR 400 SYSTEMS ENGINEERING
EE 460 CONTINUOUS CONTROL SYSTEMS
ME 321 THERMODYNAMICS II
PHYS 318 DATA ACQUISITION USING LABVIEW

Admissions standards, from pre-major to major in mechanical engineering:

Current

Academic Standards for the WKU Mechanical Engineering Program
Students are admitted as a pre-major in Mechanical Engineering. In order to transition from the pre-major to major and to graduate with a degree in Mechanical Engineering, students must complete the following courses earning a grade of "C" or better.

~~ME 176~~	~~ME Freshman Design~~	~~1 hr.~~
~~ME 180~~	~~Freshman Design II~~	~~3 hrs.~~
~~ME 240/241~~	~~Mat. Meth of Man./Lab~~	~~4hrs~~
ENG 100	Composition	3 hrs.
COMM 145or161	Public Speaking	3 hrs.
MATH 136	Calculus I	4 hrs.
MATH 137	Calculus II	4 hrs.
~~MATH 237~~	~~Multivariable Calculus~~	~~4 hrs~~
PHYS 255/256	Physics I/Lab	5 hrs.
~~PHYS 265/266~~	~~Physics II/Lab~~	~~5 hrs.~~
CHEM 120/121	Chemistry/Lab	5 hrs.
or CHEM 116/106,		4 hrs.
EM 221	UK Statics	3 hrs
or EM222 WKU Statics,		3 hrs

Proposed

Academic Standards for the WKU Mechanical Engineering Program
Students are admitted as a pre-major in Mechanical Engineering. In order to transition from the pre-major to major and to graduate with a degree in Mechanical Engineering, students must complete the following courses earning a grade of "C" or better.

	College Composition (F-W1)	3 hrs.
	Human Communications (F-OC)	3 hrs.
MATH 136	Calculus I	4 hrs.
MATH 137	Calculus II	4 hrs.
PHYS 255/256	Physics I/Lab	5 hrs.
CHEM 120	Chemistry	4 hrs.
or CHEM 116, 3 hrs.		
EM 222	Statics	3 hrs

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

- Add ENGR 490 and ENGR 491 as senior project options to ME 400 and ME 412
  Including these courses will allow civil, electrical or mechanical engineering students to form hybrid teams for their senior capstone experience.

- Modify the admission standards into the Mechanical Engineering Program. The following courses will remain required but not be in the admission standard to the program; ME 176, ME 180, MATH 237, PHYS 265/266, and ME 240/241. Also COMM145 or COMM161 will be replaced with a Human Communication (F-OC). ENG100 will be replaced with a College Composition (F-W1). All must have a grade of C or higher.
  Replacing COMM 145 or COMM 161 with F-OC, and ENG100 with F-W1 provides clarity to the requirements of the Colonnade Program. The reduced number of courses for admission to the major will be done simultaneous with moving the use of the major as a course prerequisite from ME 300 to ME 200. This will result in fewer obstacles while progressing through the curriculum while providing consistency of the requirement between electrical, civil and mechanical programs.

- Remove the following courses from the list of approved mathematics and science electives; PH 280 (and equivalent), METR 121, GEOL 111, and GEOL 112.
  There are multiple other options in the requirement that better reflect the intent of building upon mathematics and science courses typically taken in the first year of the program.

- Add the following courses to the approved list of technical electives; ENGR 360, ENGR 400, EE 460, ME 321, and PHYS 318.
  The inclusion of these expands the topical breadth available to students while maintaining the technical rigor expected of the requirement. These have been allowed multiple times already through iCAP exception forms.

- Modify the academic standards for graduation by removing the following courses from the list of those requiring a grade of C or higher; ME 310, ME 330, ME 347, and MATH 331.
  A shortened list will result in fewer obstacles to progress through the curriculum, and is being done simultaneous with capturing the C or higher requirement as prerequisites for specific program courses. This will result in better student preparation and fewer delays to graduation.

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

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

Department of Engineering	**4 May 2017**
Ogden College Curriculum Committee	
University Curriculum Committee	
University Senate	

Attachment: Program Inventory Form

CURRICULUM COMMITTEE, OCSE, STANDING RULES

I. Purpose and Functions

A. To review recommendations concerning undergraduate college and university curricula which are relevant to the Ogden College of Science and Engineering and to the welfare and best interests of the University, its students, and its faculty.

B. To render decisive action on matters of undergraduate curriculum and academic policy that affect only the College of Science and Engineering.

C. To submit for consideration to the University Curriculum Committee all approved recommendations which do not qualify for final action under the conditions of Item B.

D. To initiate, create or otherwise instigate thought, ideas, and action which will promote the best possible continuing improvement of all phases of science, mathematics, and technology at Western Kentucky University.

II. Membership

A. The committee membership shall consist of one elected faculty representative from each Department/Academic Unit. Faculty representatives shall be elected for two years. The Departments of Biology, Mathematics, Physics & Astronomy and the School of Engineering and Applied Science shall elect members in even-numbered years, and the Departments of Agriculture, Chemistry, Geography & Geology, Psychological Sciences and SkyTeach, in odd-numbered years. The faculty representatives shall be elected in the spring semester to take office at the beginning of the following fall semester. Newly elected faculty should attend the last meeting of the spring semester. Other faculty may be invited by any member of the Committee to attend meetings as associate contributors without voting privileges. The Dean or their designate may attend in an advisory capacity and will be considered an ex officio member of the committee.

B. The Chairperson of the Committee shall be elected by the membership from the Ogden Curriculum Committee membership or the committee may elect the Dean/ Associate Dean to serve as Chairperson. The election shall occur at the last meeting in the spring and the Chairperson Elect will assume the position at the first meeting in the fall. The chairperson may designate an Acting Chair in his or her absence.

C. An absent member may designate an alternate from the same Department to attend a meeting or give their proxy to another member. A member of the Ogden Curriculum Committee cannot hold more than one proxy. The chairperson should be notified by email if a proxy has been given.

III. Meetings

A. All meetings will be called by the Committee Chairperson. The Curriculum Committee shall meet once a month during the academic year unless changed by a vote of the Committee. The date, time, and place of the meetings are to be determined by the Committee Chairperson.

B. A quorum will consist of a simple majority of all voting members and a proxy will count toward the determination of a quorum.

C. A legal vote will consist of a simple majority of the quorum.

D. Requests for items to be included on the agenda will be submitted electronically to the Dean's Office no later than ten days before the meeting.

E. The meeting agenda will be posted electronically on the Ogden College Curriculum Committee web site at least four days in advance of the meeting.

IV. Procedural Rules and Regulations

Guidelines for procedures in all Committee activities will be established and reviewed periodically to insure the maximum effectiveness and efficiency of the Curriculum Committee.

A. The privilege of speaking to the Committee will be acknowledged by the Chair. Special circumstances which involve matters that may be expedited by open discussion without addressing the Chair will be recognized and declared by the Chair of the Committee.

B. 1. All recommendations will be presented and outlined in the agenda.

2. Any action originating in the OCSE Curriculum Committee shall be given a first and second reading before final action is taken on the proposal or recognition.

3. Recommendations involving amendments to these Standing Rules shall be automatically tabled until the following meeting. Consideration for immediate action can be made only by unanimous consent.

4. All proposals will be considered for final action at the first reading, unless the Chair or a majority of the members present request a second reading.

C. If any emergency arises which required immediate action of the Committee, the Chairperson (or Acting Chair) will use the best possible means of obtaining a majority vote by the members.

D. Subcommittees may be appointed for special investigations by the Chairperson. Subcommittees may include faculty members who are not members of the Curriculum Committee.

E. A uniform style of presentation will be adhered to concerning all proposals. The Ogden College Curriculum Committee will adopt the templates and format of proposals utilized by the University Curriculum Committee.

Approved April, 1972
OCSE Curriculum Committee

Revised October, 1981
OCSE Curriculum Committee

Revised October, 1984
OCSE Curriculum Committee

Revised December, 2015
OCSE Curriculum Committee