Culverhouse
College of Commerce

Faculty Executive Board Meeting
April 18, 2018
10:00-12:00
Dean's Conference Room

Attendees: **Members Present**: Dr. Steve Buchheit, Dr. Doug Cook, Dr. Ron Dulek, Dr. Peter Magnusson, Dr. Volodymyr Melnykov, Professor Joyce Meyer, Dr. Robert McLeod, Dr. Paul Pecorino, Dr. Uzma Raja, Dr. Ed Schnee.

Others Present: Dr. Jonathon Halbesleben, Ms. Danielle Clarke, and Mrs. Kati Hardemon (serving as recorder).

Dr. Schnee opened the meeting at 10:00 am.

1. **New Course Proposals for ST 440 and ST 445.** These proposals were reviewed and approved by the Undergraduate Program Committee. A motion was made by Prof. Meyer to approve these proposals, which was seconded by Dr. McLeod. **The FEB voted unanimously for approval of this motion.**
2. **New Course Proposals for ST 540 and ST 545.** These proposals were reviewed and approved by the Master's Committee. A motion was made by Dr. Dulek to approve these proposals, which was seconded by Dr. Melnykov. **The FEB voted unanimously for approval of this motion.**
3. **Professional Sales Concentration – The proposal for a new concentration in professional sales in the MS in Marketing program was** approved by Masters Committee**.** A motion was made by Dr. Dulek to approve this proposal, which was seconded by Dr. Hochstein. **The FEB voted unanimously for approval of this motion.**
4. **MIS PhD Proposal** The proposal for a new PhD in MIS was approved by the PhD Program Committee. A motion was made by Dr. Raja and seconded by Dr. Melynkov to approve this proposal. **The FEB voted to approve this motion unanimously.**
5. **Renaming of Courses –** The proposal course name changes are:
    i. MIS 670 from MIS Research Seminar I to MIS Behavioral and Organizational Theory and Design Research Seminar
    ii. MIS 680 from MIS Research Seminar II to MIS Decision Processes and Structures Research Seminar
    iii. MIS 685 from MIS Research Seminar III to MIS Research Design Seminar

A motion was made by Dr. Raja and seconded by Dr. McLeod to approve these changes as non-substantive. **The FEB voted to approve this motion unanimously**.

6. **New Minor Proposals – Four new minor proposals from EFLS**
    - Minor in Economics for non-majors – This would replace the existing specialization, but we are looking into its relationship to the current minor in economics.
    - Minor in Finance for non-majors
    - Minor in Actuarial Science – There was discussion about the differences between the math department's statistics classes and ISM's statistics classes. Also, there was a question of the FI 410 Prerequisite.
    - Minor in Risk Management/Insurance & Financial Services

    A motion was made by Dr. McLeod and seconded by Dr. Buchheit to send the Economics, Finance, and Risk Management/Insurance & Financial Services minors to the UPC and ask the department to review the Actuarial Sciences Minor with the statistics faculty and possibly the math department faculty. **The FEB voted unanimously for approval of this motion.**

7. **Announcements and Updates from the Dean's Office**
    - When considering various course proposals, the Master's committee responded to the question of cross listing courses that "The committee is unanimous in its opinion that in the case of a 500-level course taught in the same room as the undergraduate version of the course (whether slash-listed or not) there will be additional work for graduate students but we totally leave the nature and grade percentage of that work up to the instructor or a department committee. We respect the instructor's / department's ability to define such based on his/her/their expertise and experience." Dr. Halbesleben suggested that this is inconsistent with frequent FEB discussions about the criteria for slash listing and asked that FEB clarify this issue for departments.
    - The College has received our final approval from AACSB to continue our accreditation for the next five years
    - The policy for handling publications in journals not on the journal list was passed by the faculty. For the first time going through the process, we had 34 petitions submitted with 26 approved. The FEB asked for more defined steps on the process of resubmitting petitions that were rejected. The research committee will examine other potential improvements to the process.
    - A question was raised about why some journal articles from the journal list were not showing up in annual evaluation reports with their journal category. Dr. Halbesleben responded that journal categories are not automatically updated, they are manually added. We have updated the lists back to 2012, and eventually all articles will be updated.

    The meeting was concluded at 11:45 am

PROPOSAL TO OFFER A NEW COURSE

COLLEGE OF COMMERCE AND BUSINESS ADMINISTRATION
THE UNIVERSITY OF ALABAMA

Department: *Information Systems, Statistics, and Management Science*
Date: *January, 2018*
Course Number: *ST 440*
Course Title: *Statistical Programming and Computing with R*
Effective Date: *Fall 2018*

PART ONE

(To be completed by the individual proposing the course.)

I. GENERAL INFORMATION

A. Description (25 words or less):

This course explores the syntax of the R language and its capabilities for statistical data analysis, computing, and graphics.

B. 1. Prerequisite(s): *ST 260*

2 Corequisite(s): *None*

3. Other: *NA*

C. Course Level: *Upper Division Undergraduate*
(Lower Division Undergraduate, Upper Division Undergraduate, Graduate I or Graduate II)

D. Format: *3 Hours of lecture per week*

_____ Hours of discussion (recitation per week)

_____ Hours of laboratory (or field work) per week

Other instructional methods and modes: _____
_____
_____

E . Credit Hours: *3*

II ACADEMIC INFORMATION

A. Course Objectives:

Every field of science relies on experiments supported by statistical analysis fulfilled by means of statistical software. The proposed course aims to provide students with necessary knowledge about the statistical package R. Upon the completion of the course, students should be able to use standard statistical built-in functions and write their own programming code. The knowledge of basic random number generating commands will allow conducting various simulation studies. Students will become familiar with standard graphical tools and will be able to use them effectively. Finally, students will be able to conduct standard statistical analysis using R.

B. What course or courses, if any, will this course replace? Implementation of this course, if it does not replace an existing course, may cause enrollment reductions in other courses. Please list all courses in which such enrollment declines may be expected.

There is no course replacement associated with this proposal.

C. What is the justification for proposing the course at this time?

This will be an elective in the new Statistics Minor. It will also help prepare Actuary students who are required to understand and interpret R output in professional Actuary exams offered by SOA.

D. Name the current faculty who are qualified to teach this course. What specific qualifications and capabilities must an individual have in order to teach this course?

Volodymyr Melnykov, Michael Porter, Bruce Barrett
Proficiency with R and Statistical Methods are required to successfully teach the proposed course.

E .This course is designed for the following curricula (programs):

The proposed undergraduate Minor in Statistics.

F .This course will be required for the following majors and minors:

None. It is an elective for the proposed Minor in Statistics.

G. Attach an outline of the course of at least one page in length and name any textbooks or principal readings that will be used. (This request is not intended to bind future instructors to a detailed program, but only to establish the general scope, nature and level of the course)

See the attached outline of the course.

PART TWO

(To be completed by the department head, alone or in consultation with the proposer)

I. **BUDGETARY INFORMATION**

A Anticipated frequency of offering:

___1_ section(s) each fall semester _____ section(s) each spring semester

_____ section(s) during summer school _____ according to demand

B Estimated total enrollment (undergraduate / graduate):

First Year: ____10_____

Second Year: ____15_____

Third Year ____15_____

C Estimated capacity per section:

Lecture: _____40_____

Discussion _____0_____

Laboratory _____0_____

D How does this course impact on the mission of the College and department?

This course helps address the growing demand of statistical and computational proficiency in our students. It also helps to build up student capacity to support projects through the Business Analytics Institute.

E What resources will be needed to teach this course and where will they come from?

With the addition of two new faculty lines in Applied Statistics (starting in Fall 2018), no additional resources are needed.

F Is there agreement within the department that the course is needed and that resources will be available to teach this course?

Yes

G Is there any indication that this course duplicates course work offered elsewhere in the College or University?

No

II. EVALUATION

Describe the system of evaluation that will be used to determine whether this course should be continued in the departmental program. (It would be helpful to relate this system of evaluation to the kinds of information, requested in PART ONE, Section II-Academic Information and PART TWO, Section I-Budgetary Information).

After three years, we will evaluate the statistics minor to ensure that enrollment is meeting the requirements to justify resource investments in the program.

Proposed by: *Volodymyr Melnykov* *01/25/18*
Name Date

Approved by: John Mittenthal March 7, 2018
Department Head/Director Date

_____
Dean Date

Conditions of approval, if any:

Upon final approval, a course inventory form must be completed and forwarded to the Office for Academic Affairs.

ST 440 Statistical Programming and Computing with R

Text: *"R for everyone: advanced analytics and graphics" by Jared Lander, 2nd edition, 2017. This textbook provides a detailed introduction to R and will be a valuable resource after the course completion.*

Prerequisites: *Stat 260 or equivalent is required for the course enrollment; knowledge of programming concepts is not mandatory.*

Course description: *This course explores the syntax and capabilities of the R language. R commands, expressions, and matrix operations will be considered. Operations with internal built-in as well as user-written functions will be covered. Programming in R as well as optimization and graphical capabilities will be explored. Finally, the application of R to statistical problem solving, including linear and nonlinear regression, will be considered.*

Student learning objectives: *Every field of science relies on experiments supported by statistical analysis and fulfilled by means of statistical software. This course aims to provide students with necessary knowledge about the statistical package R. Upon the completion of the course, students will be able to: (i) use standard built-in R functions and write their own programming code, (ii) use basic random number generating commands to conduct simulation studies, (iii) use standard graphical tools, and (iv) conduct standard statistical analysis using R.*

Course Topics*:*

Topic:	*Week*
Installation and basic preliminaries	*1*
Syntax of R: commands, expressions	*1*
Data objects	*2*
Vector and matrix operations	*3-4*
Elements of programming	*5-6*
Standard built-in functions	*7-8*
Writing functions	*9*
Graphical capabilities	*10*
Optimization and root finding	*11*
Statistical problem solving	*12-15*
Basic statistical methods	*12*
Linear and logistic regression	*13*
Nonlinear regression	*14*
Other statistical methods	*15*

PROPOSAL TO OFFER A NEW COURSE

COLLEGE OF COMMERCE AND BUSINESS ADMINISTRATION
THE UNIVERSITY OF ALABAMA

Department: *ISM*
Date: *Jan 2018*
Course Number: *ST 445*
Course Title: *Introduction to Statistical Learning and Data Mining*
Effective Date: *Fall 2018*

PART ONE

(To be completed by the individual proposing the course.)

I. GENERAL INFORMATION

A. Description (25 words or less):

This course offers an introduction to the field of statistical learning, an essential toolkit for making sense of vast and complex data sets.

B. 1. Prerequisite(s): ST 452

2. Corequisite(s): None

3. Other: NA

C. Course Level: *Upper Division Undergraduate*
(Lower Division Undergraduate, Upper Division Undergraduate, Graduate I or Graduate II)

D. Format: 3 Hours of lecture per week

_____ Hours of discussion (recitation per week)

_____ Hours of laboratory (or field work) per week

Other instructional methods and modes: _____

_____

_____

E. Credit Hours: 3

II. ACADEMIC INFORMATION

A. Course Objectives:

This course offers an introduction to the field of statistical learning, an essential toolkit for making sense of the vast and complex data sets that have emerged in fields ranging from biology to finance to marketing to astrophysics in the past twenty years. Topics include linear and logistic regression, classification, resampling methods, shrinkage/penalized approaches, tree-based methods, generalized additive models, principal component analysis, and clustering.

B. What course or courses, if any, will this course replace? Implementation of this course, if it does not replace an existing course, may cause enrollment reductions in other courses. Please list all courses in which such enrollment declines may be expected.

This will not replace any course at the undergraduate level. No enrollment declines are expected in other undergraduate courses.

C. What is the justification for proposing the course at this time?

This will be an elective in the new Statistics Minor. It will also be part of a course sequence preparing Actuary students to take the new Statistics for Risk Modeling Exam offered by the SOA.

D. Name the current faculty who are qualified to teach this course. What specific qualifications and capabilities must an individual have in order to teach this course?

Qualified faculty includes Michael Porter, Volodymyr Melnykov, Jim Cochran

Instructors of this course should be familiar with theoretical and applied concepts in statistical learning and data mining as well as knowledge of the R programming language.

E. This course is designed for the following curricula (programs):

The proposed undergraduate Minor in Statistics.

F. This course will be required for the following majors and minors:

None. It is an elective for the proposed Minor in Statistics.

G. Attach an outline of the course of at least one page in length and name any textbooks or principal readings that will be used. (This request is not intended to bind future instructors to a detailed program, but only to establish the general scope, nature and level of the course.)

See accompanying outline

PART TWO

(To be completed by the department head, alone or in consultation with the proposer.)

I. **BUDGETARY INFORMATION**

A. Anticipated frequency of offering:

_____ section(s) each fall semester __1__ section(s) each spring semester

_____ section(s) during summer school _____ according to demand

B. Estimated total enrollment (undergraduate):

First Year: _15_____

Second Year: _20_____

Third Year _20_____

C. Estimated capacity per section:

Lecture: _40_____

Discussion __0_____

Laboratory __0_____

D. How does this course impact on the mission of the College and department?

This course helps address the growing demand of statistical and computational proficiency in our students. It also helps to build up student capacity to support projects through the Business Analytics Institute.

E. What resources will be needed to teach this course and where will they come from?

With the addition of two new faculty lines in Applied Statistics (starting in Fall 2018), no additional resources are needed.

F. Is there agreement within the department that the course is needed and that resources will be available to teach this course?

Yes

G. Is there any indication that this course duplicates course work offered elsewhere in the College or University?

No.

II. EVALUATION

Describe the system of evaluation that will be used to determine whether this course should be continued in the departmental program. (It would be helpful to relate this system of evaluation to the kinds of information, requested in PART ONE, Section II-Academic Information and PART TWO, Section I-Budgetary Information).

After three years, we will evaluate the statistics minor to ensure that enrollment is meeting the requirements to justify resource investments in the program.

Proposed by: Michael Porter — January 26, 2018
Name — Date

Approved by: John Mittenthal — March 7, 2018
Department Head/Director — Date

Dean — Date

Conditions of approval, if any:

Upon final approval, a course inventory form must be completed and forwarded to the Office for Academic Affairs.

ST 445: *Introduction to Statistical Learning and Data Mining*

Course Prerequisites:

Students taking this course should be familiar with the concepts from introductory statistics including confidence intervals, hypothesis testing, and linear regression. This is satisfied with ST 260 and ST 452.

Course Description:

This course offers an introduction to the field of statistical learning, an essential toolkit for making sense of the vast and complex data sets that have emerged in fields ranging from biology to finance to marketing to astrophysics in the past twenty years. Topics include linear and logistic regression, classification, resampling methods, shrinkage/penalized approaches, tree-based methods, generalized additive models, principal component analysis, and clustering.

Student Learning Objectives:

Students will learn how and when to use statistical learning methods, understand their comparative strengths and weaknesses, and how to critically evaluate their performance. Students completing this course should be able to: (i) construct and apply novel statistical learning methods for predictive modeling, (ii) use unsupervised learning methods to find structure in data, and (iii) properly select, tune, and assess models.

Required Textbooks:

- *An Introduction to Statistical Learning: with Applications in R* by James, Witten, Hastie and Tibshirani. An electronic version of this book is freely available at http://www-bcf.usc.edu/~gareth/ISL/.

Software:

This course requires the statistical software R and some additional document generation software.

- R (http://cran.us.r-project.org) is a free command-line based statistical language.
- RStudio is a free IDE for R (http://www.rstudio.com/ide).
- LaTex (http://www.tug.org) is a free typesetting system for producing technical documents (e.g., journal articles and presentations). Install MikTex for windows, MacTeX for mac, TeXLive for Linux.

All of these programs are free and cross-platform (Windows, Mac, Linux). Install R first, then RStudio. Use the latest versions of each. More detailed instructions can be found here: http://www.reed.edu/data-at-reed/resources/#R

Course Outline and Schedule:

The list below shows the assigned chapter from ISL, suggested schedule, and homework assignments.

1. Introduction (Week 1)
    - Install: R, RStudio, LaTex
    - Produce sample RMarkdown document in html and pdf formats
    - Install R packages: ISLR, MASS, ggplot2, dplyr, gbm, glmnet, rpart, e1071
2. Statistical Learning (Week 2)
    - Exercises 2.4: 1-10
3. Linear Regression (Week 3-4)
    - Exercises 3.7: 1-7, 9-10, 13-15
4. Classification (Week 5)
    - Exercises 4.7: 1-13
5. Resampling Methods (Week 6)
    - Exercises 5.4: 1-9
6. Linear Model Selection and Regularization (Week 7-8)
    - Exercises 6.8: 1-11
7. Moving Beyond Linearity (Week 9)
    - Exercises 7.9: 3-4, 6-7, 9-12
8. Tree-Based Methods (Week 10)
    - Exercises 8.4: 1-6, 7-8, 10-11
9. Support Vector Machines (Week 11)
    - Exercises 9.7: 1, 3, 5, 7-8
10. Unsupervised Learning (Week 12-13)
    - Exercises: 1-3, 7-11
11. Final Project (Weeks 14-15)

PROPOSAL TO OFFER A NEW COURSE

COLLEGE OF COMMERCE AND BUSINESS ADMINISTRATION
THE UNIVERSITY OF ALABAMA

Department: *Information Systems, Statistics, and Management Science*
Date: *January, 2018*
Course Number: ST *540*
Course Title: *Statistical Programming and Computing with R*
Effective Date: *Fall 2018*

PART ONE

(To be completed by the individual proposing the course.)

I. GENERAL INFORMATION

A. Description (25 words or less):

This course explores the syntax of the R language and its capabilities for statistical data analysis, computing, and graphics.

B. 1. Prerequisite(s): *ST 260*

2. Corequisite(s): *None*

3. Other: *NA*

C. Course Level: *Graduate I*
(Lower Division Undergraduate, Upper Division Undergraduate, Graduate I or Graduate II)

D. Format: *3 Hours of lecture per week*

_____ Hours of discussion (recitation per week)

_____ Hours of laboratory (or field work) per week

Other instructional methods and modes: _____
_____
_____

E. Credit Hours: *3*

II ACADEMIC INFORMATION

A. Course Objectives:

Every field of science relies on experiments supported by statistical analysis fulfilled by means of statistical software. The proposed course aims to provide students with necessary knowledge about the statistical package R. Upon the completion of the course, students should be able to use standard statistical built-in functions and write their own programming code. The knowledge of basic random number generating commands will allow conducting various simulation studies. Students will become familiar with standard graphical tools and will be able to effectively use them. Finally, students will be able to conduct standard statistical analysis using R.

B. What course or courses, if any, will this course replace? Implementation of this course, if it does not replace an existing course, may cause enrollment reductions in other courses. Please list all courses in which such enrollment declines may be expected.

There is no course replacement associated with this proposal.

C. What is the justification for proposing the course at this time?

The undergraduate version of this course will be an elective in the new Statistics Minor. It will also help prepare Actuary students who are required to understand and interpret R output in professional Actuary exams offered by SOA. At the graduate level, there is a large demand for an R course not only among Applied Statistics students but also across the University.

D. Name the current faculty who are qualified to teach this course. What specific qualifications and capabilities must an individual have in order to teach this course?

Volodymyr Melnykov, Michael Porter, Bruce Barrett
Proficiency with R and Statistical Methods are required to successfully teach the proposed course.

E .This course is designed for the following curricula (programs):

MS in Applied Statistics

F .This course will be required for the following majors and minors:

None. It is an elective for the MS in Applied Statistics.

G. Attach an outline of the course of at least one page in length and name any textbooks or principal readings that will be used. (This request is not intended to bind future instructors to a detailed program, but only to establish the general scope, nature and level of the course)

See the attached outline of the course.

PART TWO

(To be completed by the department head, alone or in consultation with the proposer)

I. **BUDGETARY INFORMATION**

A Anticipated frequency of offering:

_1__ section(s) each fall semester _____ section(s) each spring semester

_____ section(s) during summer school _____ according to demand

B Estimated total enrollment (graduate):

First Year: ____10_____

Second Year: ____15_____

Third Year ____15_____

C Estimated capacity per section:

Lecture: _____40_____

Discussion _____0_____

Laboratory _____0_____

D How does this course impact on the mission of the College and department?

This course helps address the growing demand of statistical and computational proficiency in our students. It also helps to build up student capacity to support projects through the Business Analytics Institute.

E What resources will be needed to teach this course and where will they come from?

With the addition of two new faculty lines in Applied Statistics (starting in Fall 2018), no additional resources are needed.

F Is there agreement within the department that the course is needed and that resources will be available to teach this course?

Yes

G Is there any indication that this course duplicates course work offered elsewhere in the College or University?

No

II. EVALUATION

Describe the system of evaluation that will be used to determine whether this course should be continued in the departmental program. (It would be helpful to relate this system of evaluation to the kinds of information, requested in PART ONE, Section II-Academic Information and PART TWO, Section I-Budgetary Information).

Because this course can be used for several programs (undergraduate minor in statistics via a potential accelerated master's program, master's in applied statistics, potential elective for masters students across campus), meeting minimum enrollments is not a serious concern. However, after three years, we will evaluate the statistics minor and applied statistics MS programs to ensure that enrollment is meeting the requirements to justify resource investments in these programs.

Proposed by: *Volodymyr Melnykov* *01/25/18*
Name Date

Approved by: John Mittenthal March 7, 2018
Department Head/Director Date

_____
Dean Date

Conditions of approval, if any:

Upon final approval, a course inventory form must be completed and forwarded to the Office for Academic Affairs.

ST 540 Statistical Programming and Computing with R

Text: *"R for everyone: advanced analytics and graphics" by Jared Lander, 2nd edition, 2017. This textbook provides a detailed introduction to R and will be a valuable resource after the course completion.*

Prerequisites: *Stat 260 or equivalent is required for the course enrollment; knowledge of programming concepts is not mandatory.*

Course description: *This course explores the syntax and capabilities of the R language. R commands, expressions, and matrix operations will be considered. Operations with internal built-in as well as user-written functions will be covered. Programming in R as well as optimization and graphical capabilities will be explored. Finally, the application of R to statistical problem solving, including linear and nonlinear regression, will be considered.*

Student learning objectives: *Every field of science relies on experiments supported by statistical analysis and fulfilled by means of statistical software. This course aims to provide students with necessary knowledge about the statistical package R. Upon the completion of the course, students will be able to: (i) use standard built-in R functions and write their own programming code, (ii) use basic random number generating commands to conduct simulation studies, (iii) use standard graphical tools, (iv) conduct standard statistical analysis using R, and (v) use R programming in a research project.*

Course Topics*:*

Topic:	*Week*
Installation and basic preliminaries	*1*
Syntax of R: commands, expressions	*1*
Data objects	*2*
Vector and matrix operations	*3-4*
Elements of programming	*5-6*
Standard built-in functions	*7-8*
Writing functions	*9*
Graphical capabilities	*10*
Optimization and root finding	*11*
Statistical problem solving	*12-15*
Basic statistical methods	*12*
Linear and logistic regression	*13*
Nonlinear regression	*14*
Other statistical methods	*15*

PROPOSAL TO OFFER A NEW COURSE

COLLEGE OF COMMERCE AND BUSINESS ADMINISTRATION
THE UNIVERSITY OF ALABAMA

Department: *ISM*
Date: *Jan 2018*
Course Number: *ST 545*
Course Title: *Introduction to Statistical Learning and Data Mining*
Effective Date: *Fall 2018*

PART ONE

(To be completed by the individual proposing the course.)

I. GENERAL INFORMATION

A. Description (25 words or less):

This course offers an introduction to the field of statistical learning, an essential toolkit for making sense of vast and complex data sets.

B. 1. Prerequisite(s): ST 452 or ST 552 or ST 560

2. Corequisite(s): None

3. Other: NA

C. Course Level: *Graduate I*
(Lower Division Undergraduate, Upper Division Undergraduate, Graduate I or Graduate II)

D. Format: 3 Hours of lecture per week

_____ Hours of discussion (recitation per week)

_____ Hours of laboratory (or field work) per week

Other instructional methods and modes: _____

_____

_____

E. Credit Hours: 3

II. ACADEMIC INFORMATION

A. Course Objectives:

This course offers an introduction to the field of statistical learning, an essential toolkit for making sense of the vast and complex data sets that have emerged in fields ranging from biology to finance to marketing to astrophysics in the past twenty years. Topics include linear and logistic regression, classification, resampling methods, shrinkage/penalized approaches, tree-based methods, generalized additive models, principal component analysis, and clustering.

B. What course or courses, if any, will this course replace? Implementation of this course, if it does not replace an existing course, may cause enrollment reductions in other courses. Please list all courses in which such enrollment declines may be expected.

It is possible that MS-APST students (in the Statistics Track) will opt to take this course over ST 531(Data Mining I) as an elective. Thus we anticipate a slight enrollment decrease in ST 531of up to 5 students per year.

C. What is the justification for proposing the course at this time?

The undergraduate version of this course will be an elective in the new Statistics Minor. It will also be part of a course sequence preparing Actuary students to take the new Statistics for Risk Modeling Exam offered by the SOA.

D. Name the current faculty who are qualified to teach this course. What specific qualifications and capabilities must an individual have in order to teach this course?

Qualified faculty includes Michael Porter, Volodymyr Melnykov, Jim Cochran

Instructors of this course should be familiar with theoretical and applied concepts in statistical learning and data mining as well as knowledge of the R programming language.

E. This course is designed for the following curricula (programs):

MS in Applied Statistics

F. This course will be required for the following majors and minors:

None. It is an elective for the MS in Applied Statistics.

G. Attach an outline of the course of at least one page in length and name any textbooks or principal readings that will be used. (This request is not intended to bind future instructors to a detailed program, but only to establish the general scope, nature and level of the course.)

See accompanying outline

PART TWO

(To be completed by the department head, alone or in consultation with the proposer.)

I. **BUDGETARY INFORMATION**

A. Anticipated frequency of offering:

_____ section(s) each fall semester __1__ section(s) each spring semester

_____ section(s) during summer school _____ according to demand

B. Estimated total enrollment (graduate):

First Year: _10_____

Second Year: _15_____

Third Year _15_____

C. Estimated capacity per section:

Lecture: _40_____

Discussion __0_____

Laboratory __0_____

D. How does this course impact on the mission of the College and department?

This course helps address the growing demand of statistical and computational proficiency in our students. It also helps to build up student capacity to support projects through the Business Analytics Institute.

E. What resources will be needed to teach this course and where will they come from?

With the addition of two new faculty lines in Applied Statistics (starting in Fall 2018), no additional resources are needed.

F. Is there agreement within the department that the course is needed and that resources will be available to teach this course?

Yes

G. Is there any indication that this course duplicates course work offered elsewhere in the College or University?

There is minimal overlap between the proposed course and ST531 (Data Mining I) in the areas of linear regression, decision trees, and classification. However these are a small component of the course (< 3 weeks).

II. EVALUATION

Describe the system of evaluation that will be used to determine whether this course should be continued in the departmental program. (It would be helpful to relate this system of evaluation to the kinds of information, requested in PART ONE, Section II-Academic Information and PART TWO, Section I-Budgetary Information).

Because this course can be used for several programs (undergraduate minor in statistics via a potential accelerated master's program, master's in applied statistics, potential elective for masters students across campus), meeting minimum enrollments is not a serious concern. However, after three years, we will evaluate the statistics minor and applied statistics MS programs to ensure that enrollment is meeting the requirements to justify resource investments in these programs.

Proposed by: Michael Porter — January 26, 2018
Name — Date

Approved by: John Mittenthal — March 7, 2018
Department Head/Director — Date

_____
Dean — Date

Conditions of approval, if any:

Upon final approval, a course inventory form must be completed and forwarded to the Office for Academic Affairs.

ST 545: *Introduction to Statistical Learning and Data Mining*

Course Prerequisites:

Students taking this course should be familiar with the concepts from introductory statistics including confidence intervals, hypothesis testing, and linear regression. This is satisfied with ST 260 and ST 452.

Course Description:

This course offers an introduction to the field of statistical learning, an essential toolkit for making sense of the vast and complex data sets that have emerged in fields ranging from biology to finance to marketing to astrophysics in the past twenty years. Topics include linear and logistic regression, classification, resampling methods, shrinkage/penalized approaches, tree-based methods, generalized additive models, principal component analysis, and clustering.

Student Learning Objectives:

Students will learn how and when to use statistical learning methods, understand their comparative strengths and weaknesses, and how to critically evaluate their performance. Students completing this course should be able to: (i) construct and apply novel statistical learning methods for predictive modeling, (ii) use unsupervised learning methods to find structure in data, (iii) properly select, tune, and assess models, and (iv) use statistical learning methods in a research project.

Required Textbooks:

- *An Introduction to Statistical Learning: with Applications in R* by James, Witten, Hastie and Tibshirani. An electronic version of this book is freely available at http://www-bcf.usc.edu/~gareth/ISL/.

Software:

This course requires the statistical software R and some additional document generation software.

- R (http://cran.us.r-project.org) is a free command-line based statistical language.
- RStudio is a free IDE for R (http://www.rstudio.com/ide).
- LaTex (http://www.tug.org) is a free typesetting system for producing technical documents (e.g., journal articles and presentations). Install MikTex for windows, MacTeX for mac, TeXLive for Linux.

All of these programs are free and cross-platform (Windows, Mac, Linux). Install R first, then RStudio. Use the latest versions of each. More detailed instructions can be found here: http://www.reed.edu/data-at-reed/resources/#R

Course Outline and Schedule:

The list below shows the assigned chapter from ISL, suggested schedule, and homework assignments.

1. Introduction (Week 1)
    - Install: R, RStudio, LaTex
    - Produce sample RMarkdown document in html and pdf formats
    - Install R packages: ISLR, MASS, ggplot2, dplyr, gbm, glmnet, rpart, e1071
2. Statistical Learning (Week 2)
    - Exercises 2.4: 1-10
3. Linear Regression (Week 3-4)
    - Exercises 3.7: 1-7, 9-10, 13-15
4. Classification (Week 5)
    - Exercises 4.7: 1-13
5. Resampling Methods (Week 6)
    - Exercises 5.4: 1-9
6. Linear Model Selection and Regularization (Week 7-8)
    - Exercises 6.8: 1-11
7. Moving Beyond Linearity (Week 9)
    - Exercises 7.9: 3-4, 6-7, 9-12
8. Tree-Based Methods (Week 10)
    - Exercises 8.4: 1-6, 7-8, 10-11
9. Support Vector Machines (Week 11)
    - Exercises 9.7: 1, 3, 5, 7-8
10. Unsupervised Learning (Week 12-13)
    - Exercises: 1-3, 7-11
11. Final Research Project (Weeks 14-15)

ALABAMA COMMISSION ON HIGHER EDUCATION
INSTRUCTION

Proposal Form for the Addition of an Option, Track, Specialization, Concentration, etc., to an Existing Program

1. Institution: The University of Alabama

2. CIP Code, Program Title, and Degree Nomenclature of the existing program [see instructions below]:

   CIP Code: 52.1401
   Program: Marketing
   Degree Nomenclature: M.S.

3. Name of the proposed extension:

   Professional Sales Concentration

4. Fill in the table provided with the following information:

Semester Hours in the General Education Curriculum (Certificate, Associate, and Baccalaureate Programs Only)	NA
Semester Hours in the Program Core	21
Semester Hours in the Option, Concentration, etc.	9
Total Semester Hours in the Program with the Proposed Extension/Alteration	30

5. List the courses in the program core with the number of semester hours for each:

MKT 530 Advanced Marketing Analysis	3 credit hours
IBA 555 Global Market Management	3 credit hours
MKT 595 Capstone Project in Marketing A	3 credit hours
MKT 596 Capstone Project in Marketing B	3 credit hours

6. List the courses in the proposed option, concentration, specialization, or track, etc., with the credit hours for each:

   Required:

MKT 537 Personal Selling	3 credit hours
MKT 538 Sales Management	3 credit hours
MKT 539 Key Account Management	3 credit hours

   Three optional marketing courses from the following:

MKT 510 Product Development	3 credit hours
MKT 522 Supply Chain Management	3 credit hours

MKT 531 Services Marketing	3 credit hours
MKT 540 Digital and Social Media Marketing	3 credit hours
MKT 542 Digital and Social Media Marketing Analytics	3 credit hours
MKT 543 Advanced Digital and Social Media Marketing	3 credit hours
MKT 592 Internship	3 credit hours

Other Marketing Courses will be considered on an individual basis (600 – level, 400 – level for graduate credit).

7. What is the scope or effect of the proposed extension?

    a. How many of the major courses to be offered by the proposed extension are offered in the existing program?

        MKT 537, MKT 538, and MKT 539 will be available as Master of Science in Marketing courses. Marketing 537, 538, and 539 may be taken by students who had Marketing 337, 438, and 439 as undergraduates.

    b. How will the proposed extension impact other public institutions?

        Negligible

    c. Will the proposed extension move the program listing to a new two-digit CIP category in the Commission's academic program inventory?

        No

8. What is the impact of the proposed change on the existing program or unit?

    a. What will be the budgetary impact of the proposed extension?

        None

    b. What changes in faculty and staff will be required to implement the proposed extension/alteration?

        None

9. If the extension will require additional resources, please provide a list of sources of funds available for the extension.

    N/A

10. Please state the rationale for the extension/alteration.

A Master of Marketing in Professional Sales will expose students to elevated subject matter, allow them to meet increased market expectations, and accelerate their career progression:

Subject Matter Elevation
A graduate degree concentrated in Professional Sales will allow students to become subject matter experts through the teaching of elevated sales topics. There has been a proliferation of undergraduate sales programs across the country and a similar growth is expected to occur at the graduate level. The same trends that have made programs popular nationwide will cause for growth at the master's level.

With such a proliferation, sales content has also now elevated to include master level topics like strategic account management, customer experience, and technical sales, among others. These topics cannot be covered at the undergraduate level, as that is purposed to teach the fundamental selling skills required to unlock the advanced topics.

Market Expectations
A graduate degree in Professional Sales will allow students to gain access to jobs for which they could not qualify with only an undergraduate degree. The technological, global, and industrial markets have increased the expectations of knowledge and experience required for advanced roles.

Students with a master's degree in Professional Sales can apply for jobs that place them in a sales management or sales leadership role directly following graduation. The skills gained through graduate courses can replace the work experience typically required for jobs of this level.

Career Acceleration
A graduate degree in Sales will allow students to gain exposure to an accelerated career path. Large sales organizations (i.e. AT&T, Stryker, PepsiCo, Hewlett Packard Enterprise) are valuing a master's degree as a career accelerant. Employees with a graduate degree can move laterally and vertically in an organization more quickly and can be exposed to more growth opportunities in sales.

Regardless of where students begin their careers, a Master of Marketing concentrated in Professional Sales will speed up their development. Students will start their careers with an advantage and will have the ability and skills necessary to progress quicker than those with solely an undergraduate background.

Signature of Institution's Authorized Representative Date

Title

Institution

THE UNIVERSITY OF ALABAMA | Culverhouse
College of Commerce
Information Systems, Statistics and Management Science

March 27, 2018

MEMORANDUM

TO: Dr. Edward Schnee
FROM: Dr. John Mittenthal
Department Head

The ISM Department proposes a new Doctor of Philosophy degree program in Management Information Systems (MIS). Details of this proposal are provided in an accompanying document (MIS PhD Proposal). As part of the proposed MIS PhD program, the ISM Department proposes three actions be taken to support this proposal. These three actions are as follows:

Action 1: Approve MIS 610, 611, 612, and 613
Action 2: Approve MIS 690; and
Action 3: Rename a set of three existing MIS 600-level courses.

We would like to have these actions presented at the next FEB meeting, thus moving forward with the approval process.

Action 1. Approval of MIS 610, 611, 612, and 613 Professional Development I, II, III, and IV, respectively. This seminar provides doctoral students with an introduction to the Management Information Systems (MIS) academic community. Each course is a one credit hour course and will be team taught by the MIS graduate faculty.

Action 2. Approval of MIS 690 MIS Research Methods Seminar. This seminar is a discussion of the basis and principles of systems modeling and the methods of social science research. The seminar also nurtures the motivation to become a contributor to the organizational sciences and information systems research communities by examining research processes, methodologies, and strategies, the information systems research context, concepts, theories, the application of systems modeling, and the nature of MIS research. This is a three credit hour course to be taught by members of the MIS graduate faculty.

Action 3. We also propose the following three existing course name changes:

MIS 670, from MIS Research Seminar I to MIS Behavioral and Organizational Theory and Design Research Seminar. This seminar is a discussion of the different theories and views about organizations, their human agents, and the design and security of information and communication

systems with which they engage. Students gain an appreciation for the close and intertwining nature of the relationships between views of organizations, human cognition, and the philosophies governing the design, use, and security of information systems.

MIS 680, from MIS Research Seminar II to MIS Decision Processes and Structures Research Seminar. This seminar is a study of the structures and processes of decision-making at the individual, group, and organizational levels. Students also gain an appreciation for the impact of both evolutionary and revolutionary information technologies on these decision-making structures and processes.

MIS 685, from MIS Research Seminar III to MIS Research Design Seminar. This course is an examination of the process of designing and conducting research projects on information systems phenomena. Students will gain an appreciation for the challenges and issues associated with the application of different research methodologies to MIS phenomena.

These proposed changes are needed to update the content of the courses to be consistent with the proposed MIS PhD program.

Proposal for a Minor in: Actuarial Science (AS)
At the
Culverhouse College of Business
University of Alabama (Draft: 2/13/2018)

The Culverhouse College of Commerce is establishing a system of programs: Major, Minor, Certificate and Concentration. After evaluating the options, it appears best that Actuarial Science would be best served by creating a Minor.

Features of a Minor

- 15 - 21 hours of course credit (minimum, five 3-hour courses)
- Outside of Major: no overlap in Major and Minor courses
- Required approvals: FEB, Faculty, Dean, Provost
- Submit to FEB no later than March 20

Recommended Courses

In order to qualify for the minor a student must take a minimum of five 3-hour courses. Students seeking more in-depth knowledge may take as many as seven 3-hour courses.

There are four categories of courses on the proposed AS Minor: (1) foundational, (2) required, (3) elective courses from the field, and (4) elective courses from closely-related fields.

Foundational (may be replaced by equivalent coursework)

- ***MATH 125 Calculus*, *MATH 126 Calculus II*, *MATH 227 Calculus III***
- ***FI 410 Intermediate Financial Management***
- ***EC 110 Principles of Microeconomics, EC 111 Principles of Macroeconomics***

Required

- ***FI 341 Principles of Risk Management and Insurance.***
  - Hours: 3
  - This course introduces students to the principles of risk management and provides practical knowledge that will help optimize results from the risk management process. Students learn about different kinds of insurance and develop a basic understanding of functional operations in insurance companies. The course also helps students become more effective consumers of financial services, and provides valuable knowledge for those interested in a possible career in the financial services industry
  - Prerequisites: E 110 and EC 111

- ***ST 454 Mathematical Statistics I.*** (Alternative: *MATH 451 Math Stats W/ Applictn I*)
  - Hours: 3

- Distributions of random variables, moments of random variables, probability distributions, joint distributions, and change of variable techniques.
- Prerequisites: MATH 227

- ***ST 455 Mathematical Statistics II.*** (Alternative: *MATH 452 Math Stats W/ Applictn II*)
  - Hours: 3
  - Theory of order statistics, point estimation, interval estimation, and hypothesis testing.
  - Prerequisites: ST 454

- ***FI 427 Probability for Actuaries.***
  - Hours: 3
  - The purpose of this course is to assist the student in preparation for Exam P, a three-hour exam consisting of 30 multiple choice questions, administered by the Society of Actuaries. We will introduce the basic concepts covered under Exam P and emphasize the working of problems.
  - Prerequisites: ST 454

- ***FI 428 Financial Mathematics for Actuaries.***
  - Hours: 3
  - The topics include fundamental concepts of financial mathematics, including measurement of interest, accumulation and discount, forces of interest and discount, and calculating present and accumulated values for various streams of cash flows (annuities, perpetuities, amortization and sinking funds, yield rates, bonds and other securities). A key objective is to prepare students for the corresponding exams offered by actuarial associations.
  - Prerequisites: MATH 126

Elective Courses from the Field. Two from the Following

- ***EC 413 Economic Forecasting & Analysis.***
  - Hours: 3
  - Survey of the analytical techniques used by economists to forecast the macro and micro levels of economic activity and the effects of public policy on the economy. Computing proficiency is required for a passing grade in this course.
  - Prerequisites: EC 308 and EC 309

- ***FI 419 Financial Derivatives.***
  - Hours: 3
  - Addresses managing financial risks such as adverse stock price movements, adverse interest rate changes and adverse commodity price changes with specific attention given to employing futures, options and swap contracts.
  - Prerequisites: FI 302 and FI 414

- ***FI 443 Property & Liability Insurance.***
  - Hours: 3
  - This course introduces students to commercial P-L coverages as well as to the principles of company operations, regulation, and accounting. Based primarily on the CPCU textbook, Insurance Operations, supplemented by other writings, guest speakers, and field trips, this course provides a broad-based exposure to property and liability insurance at the intermediate level. Students receive credit for CPCU 520, which is a major career-builder.
  - Prerequisite(s): EC 110 and EC 111 and FI 341 and FI 302 or IE 203 or CE 366

- ***FI 444 Life & Health Insurance.***
  - Hours: 3
  - Among the major topics covered in this advanced course are: contracts, underwriting, ratemaking (including calculation of net and gross premiums, reserves, surrender values, dividends, asset share modeling), claims, agency law, marketing (including elements of financial planning), strategic planning, and regulation. Students are prepared to take LOMA or American College examinations.
  - Prerequisite(s): EC 110 and EC 111 and FI 341 and FI 302 or IE 203 or CE 366

- ***ST 440 Statistical Programming and Computing with R.***
  - Hours: 3
  - Introduction to basic concepts in computer programming and statistical computing techniques as they are applied to data extraction and manipulation, statistical processing, and visualization. Uses the R language.
  - Prerequisites: ST 260 or GES 255, {CS 150 or UA Computer Science Placement Test Score of 380}

- ***ST 452 Applied Regression Analysis.***
  - Hours: 3
  - This course introduces modern methods of regression based data analysis. Topics include: a) models and methods of inference for simple and multiple regression; b) diagnostics, multicollinearity, influence, outliers, transformations, model selection, and dimension reduction; c) time series modeling, trends, random walks, autoregressive, exponential smoothing d) generalized linear models, binary and Poisson regression, hypothesis tests, confidence and prediction intervals.
  - Prerequisites: ST 260 or GES 255, ST 455, MATH 237 (Linear Algebra)

- ***ST 445 Intro to Statistical Learning and Data Mining.***
  - Hours: 3
  - This course offers an introduction to the field of statistical learning, an essential toolkit for making sense of the vast and complex data sets that have emerged in fields ranging from biology to finance to marketing to astrophysics in the past twenty years. Topics include linear and logistic regression, classification, resampling methods, shrinkage/penalized approaches, tree-based methods, generalized additive models, principal component analysis, and clustering.
  - Prerequisites: ST 452

Suggested Course sequence:

Freshment/Sophemore	**Junior Year**			**Senior Year**	
	Fall	*Spring*	*Summer*	*Fall*	*Spring*
Foundational Classes	ST 454 FI 428	ST 455 FI 428	Internship	Elective I	Elective II
Take FI 341 and FI 410 when convenient Alternatively, FI 428 can be taken in Sophemore year					

Proposal for a Minor in Economics
At the
Culverhouse College of Commerce
University of Alabama (Draft: 3/1/2018)

The Culverhouse College of Commerce is establishing a system of programs: Major, Minor, Certificate and Concentration. This proposal is for a Minor in Economics for non-Economics majors.

Features of a Minor

- 15 - 21 hours of course credit (minimum, five 3-hour courses)
- Outside of Major: no overlap in Major and Minor courses
- Required approvals: FEB, Faculty, Dean, Provost
- Submit to FEB no later than March 20

Requirements

- In order to qualify for the minor a student must take a minimum of five 3-hour courses. Students seeking more in-depth knowledge may take as many as seven 3-hour courses.
- This minor is not available for Economics majors.
- Due to requirement overlap (EC 308 and EC 309), Finance majors who are interested in the minor will instead pursue double major in Economics and Finance.

List of courses for Economics Minor. Minimum of Five from the Following

- ***EC 308 Intermediate Microeconomics.***
  - Hours: 3
  - Description: Examination of the theory of price and the theory of resource allocation. Topics include demand theory, production and cost functions, pricing and output under competitive and noncompetitive conditions, resource markets, and rudiments of general equilibrium analysis.
  - Prerequisite(s): (Undergraduate level MATH 121 Minimum Grade of C- or Undergraduate level MATH 145 Minimum Grade of C- or Undergraduate level MATH 125 Minimum Grade of C-) and Undergraduate level EC 110 Minimum Grade of C- and Undergraduate level EC 111 Minimum Grade of C-

- ***EC 309 Intermediate Macroeconomics.***
  - Hours: 3
  - Description: A study of the theoretical framework underlying income, employment, and growth analysis.
  - Prerequisite(s): Undergraduate level EC 110 Minimum Grade of C- and Undergraduate level EC 111 Minimum Grade of C-

- ***EC 397 Economics Elective.***
  - Hours: 3
  - Description: N.A.
  - Prerequisite(s): N.A.

- ***EC 400 Analysis of Economic Conditions (Micro/Macro).***
  - Hours: 3
  - Description: Not open to majors in economics and finance. Uses basic economic theory to assess real-world business and economic conditions at the micro and macro levels. This course may not count toward the Economics major, but may count toward the Economics minor or specialization.
  - Prerequisite(s): Undergraduate level EC 110 Minimum Grade of C- and Undergraduate level EC 111 Minimum Grade of C- and (Undergraduate level ST 260 Minimum Grade of C- or (Undergraduate level ST 250 Minimum Grade of C- and Undergraduate level ST 251 Minimum Grade of C-)) and Undergraduate level OM 300 Minimum Grade of C- and Undergraduate level FI 302 Minimum Grade of C-

- ***EC 410 Law and Economics.***
  - Hours: 3
  - Description: This course will use the tools of economic analysis to analyze public policy issues and to explore the intersections between the law and economics. Writing proficiency is required for a passing grade in this course.
  - Prerequisite(s): Undergraduate level EC 308 Minimum Grade of C-

- ***EC 412 Industrial Organization.***
  - Hours: 3
  - Description: Study of the various types of industry structure, conduct, and performance; business strategies; and policy alternatives. Emphasizes case studies from the major types of industry.
  - Prerequisite(s): Undergraduate level EC 308 Minimum Grade of C-

- ***EC 413 Economic Forecasting & Analysis.***
  - Hours: 3
  - Description: Survey of the analytical techniques used by economists to forecast the macro and micro levels of economic activity and the effects of public policy on the economy. Computing proficiency is required for a passing grade in this course.
  - Prerequisite(s): (Undergraduate level ST 260 Minimum Grade of C- or (Undergraduate level ST 250 Minimum Grade of C- and Undergraduate level ST 251 Minimum Grade of C-)) and Undergraduate level EC 308 Minimum Grade of C- and Undergraduate level EC 309 Minimum Grade of C-

- ***EC 416 Monetary Theory & Policy.***
  - Hours: 3
  - Description: Analysis of the role of money in the economy and the conduct of monetary policy. Emphasis is given to the money supply process, the demand for money, and the choice of monetary-policy strategies and procedures.
  - Prerequisite(s): Undergraduate level EC 110 Minimum Grade of C- and Undergraduate level EC 111 Minimum Grade of C-

- ***EC 422 Urban Economics.***
  - Hours: 3
  - Description: Analysis of the economics of community growth and the application of economic principles in solving problems and exploiting opportunities generated by the process of urban development.
  - Prerequisite(s): Undergraduate level EC 110 Minimum Grade of C- and Undergraduate level EC 111 Minimum Grade of C-

- ***EC 423 Public Economics.***
  - Hours: 3
  - Description: Study of the principles of taxation, government expenditures, borrowing, and fiscal administration.
  - Prerequisite(s): Undergraduate level EC 308 Minimum Grade of C-

- ***EC 430 International Trade.***
  - Hours: 3
  - Description: Analysis of theoretical principles underlying international trade, with application of these principles to recent developments and to current national policies.
  - Prerequisite(s): Undergraduate level EC 308 Minimum Grade of C-

- ***EC 431 International Finance.***
  - Hours: 3
  - Description: Introduction to the field of international finance. Course deals primarily with international financial markets and the macroeconomics of international financial flows. Topics include foreign exchange and international securities markets and international banking.
  - Prerequisite(s): Undergraduate level FI 301 Minimum Grade of C- or Undergraduate level EC 309 Minimum Grade of C- or Undergraduate level EC 430 Minimum Grade of C-

- ***EC 442 Economic Development of Latin America***
  - Hours: 3
  - Description: A comparative analysis of economic strategies, problems, issues, and policy outcomes with special attention given to Mexico, Costa Rica, Cuba, and Brazil.
  - Prerequisite(s): Undergraduate level EC 110 Minimum Grade of C- and Undergraduate level EC 111 Minimum Grade of C-

- ***EC 444 Political Economy of Terrorism.***
  - Hours: 3
  - Description: Rational actor models applied to the study of terrorism. Empirical examination of the economic impact of terrorism and of the effectiveness of anti-terrorism policies.
  - Prerequisite(s): Undergraduate level EC 308 Minimum Grade of C-

- ***EC 460 Labor Economics.***
  - Hours: 3
  - Description: This course provides an overview of labor economics. Topics covered include labor supply, labor demand, human capital, minimum wages, immigration, and discrimination.
  - Prerequisite(s): Undergraduate level EC 308 Minimum Grade of C-

- ***EC 470 Introduction to Mathematical Economics.***
  - Hours: 3
  - Description: Application of selected mathematical methods to the analysis of economic problems.
  - Prerequisite(s): Undergraduate level EC 309 Minimum Grade of C-

- ***EC 471 Econometrics.***
  - Hours: 3
  - Description: This course emphasizes statistical methods for analyzing data used by social scientists. Topics include simple and multiple regression analyses and the various methods of detecting and correcting data problems such as autocorrelation and heteroscedasticity.

- Prerequisite(s): (Undergraduate level MATH 121 Minimum Grade of C- or Undergraduate level MATH 125 Minimum Grade of C- or Undergraduate level MATH 145 Minimum Grade of C-) and (Undergraduate level ST 260 Minimum Grade of C- or (Undergraduate level ST 250 Minimum Grade of C- and Undergraduate level ST 251 Minimum Grade of C-)) and Undergraduate level EC 110 Minimum Grade of C- and Undergraduate level EC 111 Minimum Grade of C-

- ***EC 472 Financial Econometrics.***
  - Hours: 3
  - Description: This course is intended to provide a modern and up-to-date presentation of financial econometrics, and introduce students to appropriate techniques for empirical investigation in financial economics, asset pricing and risk management.
  - Prerequisite(s): (Undergraduate level MATH 121 Minimum Grade of C- or Undergraduate level MATH 125 Minimum Grade of C- or Undergraduate level MATH 145 Minimum Grade of C-) and (Undergraduate level ST 260 Minimum Grade of C- or (Undergraduate level ST 250 Minimum Grade of C- and Undergraduate level ST 251 Minimum Grade of C-)) and Undergraduate level EC 110 Minimum Grade of C- and Undergraduate level EC 111 Minimum Grade of C-

- ***EC 473 Games and Decisions.***
  - Hours: 3
  - Description: An introduction to game theory with emphasis on application. Game theory is a toolbox for analyzing situations where decision makers influence one another.
  - Prerequisite(s): Undergraduate level MATH 121 Minimum Grade of C- or Undergraduate level MATH 125 Minimum Grade of C- or Undergraduate level MATH 145 Minimum Grade of C-

- ***EC 480 Economics of Environment.***
  - Hours: 3
  - Description: Survey of the techniques used to estimate benefits of environmental improvements, and an analysis of public policy relating to the environment and use of natural resources.
  - Prerequisite(s): Undergraduate level EC 308 Minimum Grade of C-

- ***EC 482 Seminar on Economic Issues.***
  - Hours: 3
  - Description: Group discussion of current economic issues together with analysis and policy recommendations. Writing proficiency within this discipline is required for a passing grade in this course.
  - Prerequisite(s):
  - Undergraduate level EC 110 Minimum Grade of C- and Undergraduate level EC 111 Minimum Grade of C-

- ***EC 483 Health Care Economics.***
  - Hours: 3
  - Description: An investigation of the microeconomics of the American health care delivery system. The course focuses on the demand for and supply of health care services and emphasizes the efficiency and equity characteristics of the system.
  - Prerequisite(s): Undergraduate level EC 308 Minimum Grade of C-

- ***EC 497 Special Topics in Economics.***
  - Hours: 3

- Description: N.A.
- Prerequisite(s): Undergraduate level EC 110 Minimum Grade of C- and Undergraduate level EC 111 Minimum Grade of C-

Proposal for a Minor in: Finance
At the
Culverhouse College of Commerce
University of Alabama (Draft: 3/1/2018)

The Culverhouse College of Commerce is establishing a system of programs: Major, Minor, Certificate and Concentration. This proposal is for a Minor in Finance for non-Finance majors.

Features of a Minor

- 15 - 21 hours of course credit (minimum, five 3-hour courses)
- Outside of Major: no overlap in Major and Minor courses
- Required approvals: FEB, Faculty, Dean, Provost
- Submit to FEB no later than March 20

Requirements

- In order to qualify for the minor a student must take a minimum of five 3-hour courses. Students seeking more in-depth knowledge may take as many as seven 3-hour courses.
- Students must take the following four required courses and one elective from the field.
- This minor is not available for Finance majors.
- Due to requirement overlap (FI 301), Economics majors who are interested in the minor will instead pursue double major in Economics and Finance.

Required Courses

- ***FI 301 Introduction to Financial Institutions and Markets.***
  - Hours: 3
  - Overview of the financial systems in which business operates, with emphasis on financial institutions, instruments, and markets.
- ***FI 410 Intermediate Financial Management.***
  - Hours: 3
  - Development of advanced practices of financial management and their application to decision making in the business firm.
  - Prerequisite(s): EC 110 and EC 111 and FI 302 or IE 203 or CE 366
- ***FI 412 Money and Capital Markets.***
  - Hours: 3
  - An overall view of the financing process and the role of financial markets. Areas covered are characteristics of instruments traded in money and capital markets; determinants of and the relationships between different asset prices; and international aspects of financial markets.
  - Prerequisite(s): EC 110 and EC 111 and FI 302 or IE 203 or CE 366
- ***FI 414 Investments.***
  - Hours: 3
  - Study of the various investment media together with analysis models of investment management. Emphasis is on investment decision making and portfolio analysis.
  - Prerequisite(s): EC 110 and EC 111 and FI 302 or IE 203 or CE 366

Elective Courses from the Field. Minimum of One from the Following

- ***FI 415. Advanced Investments.***
  - Hours: 3
  - Advanced models for investment management are developed and their application in decision making is discussed. Emphasis is on the use of models for portfolio selection.
  - Prerequisite(s): FI 302

- ***FI 417. Value Investing.***
  - Hours: 3
  - This course will introduce the fundamental principles of a value-based investing approach, which will serve as a foundation for examining several critical aspects of the investing process, namely idea generation, fundamental business/industry research, financial-statement analysis and valuation.
  - Prerequisite(s): FI 302

- ***FI 421. Bank Administration.***
  - Hours: 3
  - Survey of analytical methods in banking, including study of the powers of various government agencies. Emphasis is placed on managerial aspects of commercial banking.
  - Prerequisite(s): FI 301 and FI 302 or IE 203 or CE 366

- ***FI 431. International Finance.***
  - Hours: 3
  - Introduction to the field of international finance. Course deals primarily with international financial markets and the macroeconomics of international financial flows. Topics include foreign exchange and international securities markets and international banking.
  - Prerequisite(s): FI 301 or EC 309 or EC 430

- ***FI 419. Financial Derivatives.***
  - Hours: 3
  - Addresses managing financial risks such as adverse stock price movements, adverse interest rate changes and adverse commodity price changes with specific attention given to employing futures, options and swap contracts.
  - Prerequisite(s): FI 302 and FI 414

Proposal for a Minor in: Risk Management/Insurance & Financial Services (RMI)
At the
Culverhouse College of Commerce
University of Alabama (Draft: 2/5/2018)

The Culverhouse College of Commerce is establishing a system of programs: Major, Minor, Certificate and Concentration. After evaluating the options, it seems clear that the Risk Management/Insurance & Financial Services (RMI) program would best be positioned as a Minor.

Features of a Minor

- 15 - 21 hours of course credit (minimum, five 3-hour courses)
- Outside of Major: no overlap in Major and Minor courses
- Required approvals: FEB, Faculty, Dean, Provost
- Submit to FEB no later than March 20

Recommended Courses

In order to qualify for the minor a student must take a minimum of five 3-hour courses. Students seeking more in-depth knowledge may take as many as seven 3-hour courses.

There are three categories of courses on the proposed RMI Minor: (1) required, (2) elective courses from the field, and (3) elective courses from closely-related fields.

Required

- ***FI 341 Principles of Risk Management and Insurance.***
  - Hours: 3
  - This course introduces students to the principles of risk management and provides practical knowledge that will help optimize results from the risk management process. Students learn about different kinds of insurance and develop a basic understanding of functional operations in insurance companies. The course also helps students become more effective consumers of financial services, and provides valuable knowledge for those interested in a possible career in the financial services industry
  - Prerequisites: E 110 and EC 111

Elective Courses from the Field. Minimum of Two from the Following

- ***FI 442. Business Risk Management.***
  - Hours: 3
  - This course analyzes loss exposures facing organizations and the methods available for managing risks. Students learn about both loss control and loss financing techniques. Based primarily on the Insurance Institute of America's Associate Risk Management textbook, *Risk Assessment*, the curriculum is supplemented by readings from other ARM textbooks and makes use of guest speakers and field trips. Students are prepared to take one or more ARM exams.

- Prerequisite(s): EC 110 and EC 111 and FI 341 and FI 302 or IE 203 or CE 366

- ***FI 443. Property & Liability Insurance.***
  - Hours: 3
  - This course introduces students to commercial P-L coverages as well as to the principles of company operations, regulation, and accounting. Based primarily on the CPCU textbook, *Insurance Operations,* supplemented by other writings, guest speakers, and field trips, this course provides a broad-based exposure to property and liability insurance at the intermediate level. Students receive credit for CPCU 520, which is a major career-builder.
  - Prerequisite(s): EC 110 and EC 111 and FI 341 and FI 302 or IE 203 or CE 366

- ***FI 444. Life & Health Insurance.***
  - Hours: 3
  - Among the major topics covered in this advanced course are: contracts, underwriting, ratemaking (including calculation of net and gross premiums, reserves, surrender values, dividends, asset share modeling), claims, agency law, marketing (including elements of financial planning), strategic planning, and regulation. Students are prepared to take LOMA or American College examinations.
  - Prerequisite(s): EC 110 and EC 111 and FI 341 and FI 302 or IE 203 or CE 366

- ***FI 360. Principles of Financial Planning.***
  - Hours: 3
  - To teach students about financial assets as vehicles for saving for the future. Students will also learn how to invest in a combination of assets to meet their objectives and how their objectives may change over their life span.
  - Prerequisite(s): none

- ***Legal Studies 403. Administration of Estates & Trusts.***
  - Hours: 3
  - The principles and rules of law relating to wills and inheritances are covered, as well as how estates are administered, why and how trusts are created and operated, and the duties and of executors, administrators, and trustees.
  - Prerequisite(s): LGS 200

- **FI ___. Actuarial Science Exam Probability (course number to be determined)**
  - Hours: 3
  - Prepares students to pass the professional actuarial exam Probability which is required for certification by either the Casualty Actuarial Society or the Society of Actuaries.
  - Prerequisites: MATH 125, MATH 126, and MATH 227

- **FI ___. Actuarial Science Exam Financial Mathematics (course number to be determined)**
  - Hours: 3
  - Prepares students to pass the professional actuarial exam Probability which is required for certification by either the Casualty Actuarial Society or the Society of Actuaries.
  - Prerequisites: MATH 125, MATH 126, and MATH 227

Elective Courses from Closely-Related Fields.

***Accounting**:*

- **AC 334 Introduction to Fraud Risk Management**
  - Hours: 3
  - This course provides a basic overview of fraud risk management in business, including the global fraud problem, fraud risk identification, assessment, prevention, detection, and follow-up.
  - Prerequisites: AC 210

Finance

- **FI 414 Investments**
  - Hours: 3
  - Study of the various investment media together with analysis models of investment management. Emphasis is on investment decision making and portfolio analysis
  - Prerequisite(s): EC 110 and EC 111 and FI 302 or IE 203 or CE 366

- **FI 436 Real Estate Financing**
  - Hours 3
  - Study of the institutions of real estate finance and of factors affecting the flow of funds; investment analysis and procedures involved in real estate financing.
  - Prerequisite(s): FI 302 or CE 366 or IE 203

Management

- **MGT 322 Effective Negotiations**
  - Hours 3
  - Negotiations are pervasive in all aspects of life. Having the ability to effectively negotiate can provide you with a competitive advantage in many situations. This course will employ negotiations exercises, expert guest speakers and additional readings to help students master negotiation skills.
  - Prerequisite(s): Junior class standing and enrollment in College of Commerce and Business Administration, OR by permission of instructor.

Marketing/Sales

- **MKT 337 Personal Selling**
  - Hours 0-3
  - Introduction to successful selling practices and principles through presentation, discussion, role-playing, and workshops. Includes principles of prospecting, establishing rapport, generating curiosity, being persuasive, creating desire, handling objections, and closing.
  - Prerequisite(s) with concurrency: MKT 300