<center>Interdisciplinary Major Proposal: "Mathematical Economics"</center>

Interdisciplinary Major Committee
Dr. Ralph Scott, Committee Chair, Department of Economics and Business
Dr. Chris Camfield, Department of Mathematics and Computer Science

<center>Thematic Justification</center>

The idea for this major is fairly standard. Graduate programs in Economics require far more mathematics coursework than their undergraduate counterparts. The lists vary for which math courses are required but every list has *Linear Algebra, Differential Equations,* and *Multivariable Calculus.* Since graduate work in Economics is a major consideration for me, I want to structure this interdisciplinary major in a way that makes minimal changes to the existing Economics requirements while also allowing me space to pursue electives, a minor, or a double major in a topic where I could apply Economic analysis: International Relations.

All this proposal does is substitute upper level Mathematics courses for the Accounting courses in the standard Economics major. For graduate school, Accounting concepts are useful but four semesters of them are not necessary. Instead, I need coursework in mathematical models, matrices, differential equations, vectors, and other advanced concepts used in graduate school. This same academic path is suggested at other institutions like Rhodes College; students desiring to go into graduate work receive generally do not take Accounting or Business courses as part of their required set. They do take Mathematics courses and occasionally they form an interdisciplinary major.

<center>Interdisciplinary Major Requirements</center>

Note the following requirements of designing an Interdisciplinary Major have been met.
The clear title is as follows: "Mathematical Economics"
The major requires 12 total courses. The requirement for a standard Interdisciplinary Major is 10. The major, as per the requirement, will involve at least four courses that are at a 300/400 level. The other two requirements, a 2.0 GPA and 50% of the courses being taken at Hendrix, are expected to be met.

The Senior Capstone Experience will be as follows. The student may choose one from any of the following options. Note that options 1, 2, and 3 are from the Hendrix 2014-2015 Catalog. Option 2 has been adjusted to the course requirements of this major.

OPTION 1. Completion of the course *ECON 497 Economics Research* with a grade of "C" or above
OPTION 2. Passing a comprehensive written examination with three parts: (1) a concentration based on Mathematics with material derived from *ECON 499,* the major's Mathematics requirements, or some combination; (2) *ECON 200 Microeconomic Theory* and *ECON 210 Macroeconomic Theory*; and (3) a concentration based on two upper-level Economics courses.
OPTION 3. Successful completion of an economic research project in conjunction with the Baker Prize in Economics.
OPTION 4. Successful completion of an economic research project for an Undergraduate Research (UR) Odyssey Credit.

███████████████

Course Requirements

5x Foundational Courses
ECON 200 Microeconomic Theory (Principles of Microeconomics)
ECON 210 Macroeconomic Theory
ECON 497 Mathematical Economics (Independent Study)
MATH 130 Calculus I
MATH 140 Calculus II

3x Mathematics Requirements
MATH 230 Multivariable Calculus
MATH 260 Differential Equations
MATH 270 Linear Algebra

4x Upper-Level Economics Requirements
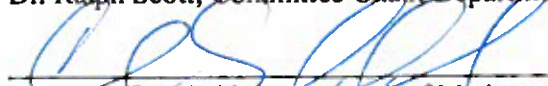**Choose any 4 of the following:**
ECON 300 Advanced Microeconomic Theory
ECON 310 Advanced Macroeconomic Theory
ECON 320 Money, Banking, and Credit
ECON 335 International Finance
ECON 340 Environmental Economics
ECON 350 History of Economic Thought
ECON 360 International Economics
ECON 370 Industrial Organization
ECON 380 Public Finance
ECON 385 Labor Economics
ECON 390 Investments
ECON 400 Econometrics and Forecasting
ECON 410 Corporate Finance
ECON 430 Management Science
ECON 497 Economics Research

Suggestions for the formation of this proposal can be attributed to members of the Interdisciplinary Committee. Additionally, the website of Rhodes College's Economics Department was consulted.

If the terms of this proposal are agreeable, please sign and date below prior to submission.

_____ 3/4/15
Chirag Lala, Class of 2017

_____ 3/4/15
Dr. Ralph Scott, Committee Chair, Department of Economics and Business

_____ 3/3/15
Dr. Chris Camfield, Department of Mathematics and Computer Science