

## **Proposal for a Mellon “Reimagining the Commons” grant for Departmental Transformation across the major**

**Department of Economics**  
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### **Background**

Economics employs a powerful set of analytical tools that can be applied to shed light on a wide variety of social phenomena. Any student who aspires to a broad liberal education should have at least a basic understanding of economics in order to be able to understand and form independent judgements on political and economic policy debates.

At Amherst, Introduction to Economics (Econ 111) is taken by most students and is also the gateway to our major, the largest major at the college. As such Econ 111 is a very important course in the curriculum of both the department and the college.

We have been teaching the course essentially the same way, using the same textbook, for at least the last 15 years. The course is taught in sections of 25-35 students, and the focus is on introducing students to the “tools” of economics – a body of important but somewhat abstract theoretical ideas presented mainly using diagrams. These tools are taught in lectures, supplemented by a textbook, and mastery of the tools is tested using exams. The tools (theories) learned in Econ 111 are subsequently applied in elective courses on topics such as economic development, environmental economics, industrial organization, financial globalization, international trade, migration, and so on.

We do, of course, discuss some applications in Econ 111. However, these applications are primarily chosen and designed to showcase how the theory works, so connections to real-world debates are generally incidental rather than the core objective. The division between theory and applications sets the tone for the whole major: the major is divided into “theory” courses (111/300/330) which are largely disjoint from electives that focus on applications (200/400 level courses). Successful completion of the prerequisite theory courses grants access to elective courses in which the theory is applied.

This approach is logical and valuable, particularly for motivated students. Mathematical models are the language economists use to communicate ideas and debate issues, so learning this language and understanding how the models work is a crucial foundation for carrying out economic analyses and understanding policy debates.

### **The problem**

Recently, a number of us have become dissatisfied with how well our current method of teaching Econ 111 meets the needs of our changing student body and engages student interest in economics. The textbook is probably the best available, but it is expensive and

somewhat ideologically biased, and has changed very little over time, although economics has been evolving in significant ways.

Although understanding the tools of economic theory is vital, economics is influential precisely because these tools are useful for understanding the real world, and the ultimate purpose of studying economics is to engage with these real-world issues, rather than the models themselves. Yet the emphasis on formal theory rather than real-world applications in Econ 111, and the use of a lecture-driven format rather than interactive, inquiry-driven pedagogy delays the “payoff”, in terms of concrete insights into the real-world problems that students care about.

This creates a number of problems. First, it advantages those students with high levels of quantitative preparation, some of whom may even have taken economics courses in high school, and tends to discourage those with lower levels of preparation.

Second, some students for whom a knowledge of economics would be invaluable, such as those interested in social or environmental justice, delay taking economics until late in their college careers, if at all, or choose not to carry on with economics beyond the introductory course. Indeed, some students who we feel might have become enthusiastic economists instead end up with a misleading and even dismissive view of economics.

Third, the emphasis on theory rather than applications in Econ 111 also (we believe) contributes to a low level of student engagement in economics. Many of the students who do carry on in economics, including some of our majors, seem to do so not primarily because they are fascinated by the material, but because they see the major as a means to an end (ie., a better job). We are not opposed to students taking economics for this reason, but we feel it reflects an impoverished and incomplete understanding of what economics is and how it can be useful.

All of these problems are particularly acute among students from groups that are underrepresented in our major (particularly women and students of color), who may not readily perceive how economics is relevant to their interests and concerns.

Recently, an increasing number of economists across the profession have begun to express similar unease with the way in which the introductory course is taught. Robert Frank, for example, writes “As taught in American colleges and universities, introductory economics courses leave almost no measurable trace on students.”<sup>1</sup> These concerns have given rise to a small emerging literature on improving the pedagogy and content of the introductory course. Frank, for example, advocates focusing on a small set of core principles to be explored in multiple contexts, rather than attempting a comprehensive coverage of the subject, and encouraging students to become “economic naturalists”, using these principles to explain enigmas they encounter in their everyday lives, so that the study of economics becomes an “intellectual adventure”. We intend to explore this literature in search of innovative practices as we attempt to recraft Econ 111.

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<sup>1</sup> Robert H. Frank, “Less is more: the perils of trying to cover too much in microeconomic principles”, *International Handbook on teaching and learning economics*, Edward Elgar, 2011.

## Proposal

We propose to experiment with applications-oriented sections of Econ 111, beginning in Fall 2017. The core content would not change very much, but the material would be organized around real-world applications, with theory introduced to demonstrate how it can lead to a deeper understanding of those applications. Kate Sims, who teaches the “environmental” section of Econ 111, has already made significant efforts to incorporate more real-world applications in the course. Building on Kate’s approach, our proposal envisages starting small and experimenting with a small number of sections in order to learn what works. For faculty, participation would be voluntary; those who prefer to keep teaching with the current system will be able to do so. An important advantage of this approach is that it will provide us with a “control” group, which will help us to evaluate the success (or failure) of our experiment.

The new, applications-oriented sections of Econ 111 would consider discontinuing the use of the Mankiw textbook, supplementing (or replacing) it with a broader use of sources including newspaper articles, video documentaries, etc. on current economic debates, and attempt to use these materials as the jumping-off point for economic inquiry by integrating them closely with theoretical material.

We would seek ways to integrate the use of technology: clickers, online “games”, video lectures, and other high-impact teaching practices. In particular, Chris Kingston has been experimenting for several years with “flipped” classes in Microeconomics (Econ 300), presenting theoretical material in online videos and then “flipping” the classroom to spend more time in class on applications. Some aspects of this approach may be suitable for Econ 111 as we attempt to shift the balance of class time in favor of discussing applications, and to use real-world examples to motivate the theoretical material rather than the other way round.

For example, instead of presenting supply/demand analysis in the abstract (“market for apples”), we might begin the week with a graph of historical fluctuations in oil prices, then use a variety of sources to try to discover what global supply and demand shifts account for these fluctuations, and finally build theoretical (diagrammatic) tools to capture the “common sense” arguments generated by the discussion, thereby demonstrating the usefulness of the theory as a tool for understanding real-world phenomena. By the end of the week, we should be using the theory to make predictions about what will happen to oil prices in the future under various scenarios, how various policies or political developments might affect oil prices, etc. Similarly, instead of presenting international trade in the abstract, we could begin with the controversy over NAFTA or outsourcing; and then develop tools to formalize and evaluate these arguments; and so on.

We intend to begin offering applications-oriented sections of Econ 111 in Fall 2017. Many details of the implementation of this proposal remain to be worked out, but we tentatively propose that Chris Kingston and Geof Woglom will co-teach three sections of Econ 111 in Fall 2017. Rather than the current limit of 25-35 students, we propose to cap these three sections at 18 students (this smaller class size is why we propose to teach three rather than

two sections), and merge the three sections for three one-hour lectures each week (54 students). Each section would then also meet separately for a fourth hour at the end of the week for discussions/debates.

Within these sections, students would be given an opportunity to independently research topics (in teams) and debate some policy question. For example, a section of 18 students could be divided into 6 teams of 3 students, and each week two teams could be tasked to kick off the Friday discussion section meetings with a brief debate. In contrast to our current approach, in which a professor presents material in a lecture format, and each student is expected to demonstrate their individual mastery of that material on exams, a discussion/debate approach would help to increase the amount of collaborative interaction between students in the classroom, and foster an active learning community in which students would engage in teamwork to tackle complex, open-ended problems to which (in contrast to our current approach) there might not be a clean, “correct” answer, and in which exposure to the views of peers with a diverse range of experiences and perspectives may prove valuable in gaining more multi-faceted insights into an issue.

Students would continue to be assessed mainly through exams. However, the inquiry-based, applications-oriented course we envisage would also enable us to partially assess students on their contributions to and preparation for in-class discussions, the quality of the arguments made and how well the students integrated the theoretical tools to gain insight into real-world applications. It would also naturally allow us to ask students to research and write a brief paper on some real-world economic issue. A number of our colleagues already do assign writing assignments in elective courses, but economics courses generally, and Econ 111 in particular, focus more on quantitative assessments (problem sets and exams). Adding writing assignments, and increasing the role of in-class discussions, would level the playing field by giving students who might lack strong quantitative and test-taking skills an opportunity to demonstrate their learning in another way, and give all our students a broader and more realistic impression of what “doing economics” entails.

### **Goals and assessment**

The primary goal of this proposal is to increase student engagement in economics by demonstrating the power of economic analysis to explain a broad range of real-world phenomena, and the relevance of economics to the issues students care about. A close corollary is that by this means we also hope to make a broader range of students aware of how much the study of economics has to offer them, and to increase the diversity of students in the economics major, both in terms of gender, race, and academic interests.

We also aspire to increase the number of students aspiring to do honors work in economics by exposing students to a range of applications early in their academic careers.

Finally, because most of our faculty periodically teaches Ec111, and because the course in many ways sets the tone for the whole major, changing the approach in Econ 111 has the potential to shift students’ expectations and affect pedagogy throughout our curriculum,

lessening the disjunction between theory and application, and increasing students' awareness of economics as a set of useful tools for understanding the real world.

We would evaluate our success in meeting these goals both directly using student evaluations and faculty observations, and indirectly by seeing how many students carry on to take further courses in economics, and how well they do in those courses compared to those who have taken "regular" Econ 111. Another possibility, if feasible, might be to administer a test of core economic principles to graduating seniors who have taken Econ 111 and no other courses, to see whether the core principles of economic reasoning "take root" more readily when taught through applications. Ultimately, an important metric will also be to see how many students, particularly those from backgrounds currently underrepresented in our major, go on to do independent honors work in economics (it will likely be several years before we can know this). We are keen to find objective ways to evaluate whether our efforts are having the desired effect and look forward to working with the staff in Instructional and Curricular Design to consider how best to assess the success of the program.

## **Funding**

To plan and reorganize the course will entail a significant amount of work. Much of this would involve coming up with compelling applications linked to the theoretical material, and thinking about what theoretical material to introduce and in what sequence so that we retain as much as possible of what is good about the current approach: in particular, that the theoretical ideas build on each other. Other time-consuming tasks will include recording videos to present lecture material, and designing new "problem sets" and exams tailored to the applications-oriented approach.

Much of this work would be begun collaboratively during 2016-17, with the first implementation of the new approach planned for Fall 2017. To begin this work, a group of Economics faculty met twice in June 2016 to discuss the content and purpose of the introductory course, and to identify the core principles and ideas that should be covered so as to balance the goals of introducing students to the economics major while also meeting the needs of non-majors.

To assist in this work, we propose to hire two student interns during the 2016-17 academic year and during Fall 2017. These interns, who would be economics majors, would be tasked with helping us find suitable sources (newspaper articles, YouTube videos etc.) relating to various topics, and to interpret the arguments in Econ 111 terms. This would be a substantive and educational research project for students who have done well in Econ 111.

## **Budget**

Student interns: 2 students, 36 weeks, 5 hours/week @ \$12.50/hour	\$4,500
Books, videos, newspaper subscriptions, and other materials	\$1,500
Funds to bring speakers to campus/travel to conferences on economics pedagogy	\$4,000
Honoraria:	
Chris Kingston <i>teaching experimental sections in Fall 2017;     responsible for reporting</i>	\$5,000
Geof Woglom <i>teaching experimental sections in Fall 2017</i>	\$5,000
Kate Sims <i>involved in creating content</i>	\$2,000
Dan Barbezat <i>involved in creating content</i>	\$2,000
Brian Baisa <i>involved in creating content</i>	\$2,000
Caroline Theoharides <i>involved in creating content</i>	\$2,000
Stan Rabinovich <i>involved in creating content</i>	\$2,000
<b>Total</b>	<b>\$30,000</b>