

# Lakehead

UNIVERSITY

## MEMORANDUM

**TO:** Karen Roche, Secretary of Senate  
**FROM:** Gillian Siddall, Chair  
Senate Academic Committee  
**RE:** Report of the Senate Academic Committee (SAC)  
**DATE:** September 21, 2009

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Please accept my report as Chair in respect of the special meeting held on June 4, 2009 and the regular meeting held on September 15, 2009.

### **5.1 (i) Terms of Reference – Quality Assurance Sub-Committee**

The Committee reviewed the draft Terms of Reference that will establish a Quality Assurance Sub-Committee, (a standing sub-committee of the Senate Academic Committee). It is important that the Quality Assurance Committee be formally established to oversee the undergraduate review process in accordance with the provincial Undergraduate Program Review Audit Committee (UPRAC) guidelines, and to assess how new program proposals address established institutional and UPRAC criteria. The establishment of the Committee at this point will assist with the development of the new institutional quality assurance process, which will align with the provincial Quality Assurance Framework, taking effect September 2010. The Senate Academic Committee approved the draft Terms of Reference, as amended on September 15<sup>th</sup>. (Attached)

### **5.2 Annual Action Plan – Implementation of Academic Plan 2006 and Recommendations for upcoming Academic Planning**

A report was developed by M. McPherson in response to the Senate Academic Committee Terms of Reference and Action Plan for the 2008/2009 academic year. The purpose of the report was to summarize the implementation status of the 2006 Academic Plan as it relates to undergraduate programming. The report was organized by the action items referenced in the plan, and provided a chronology of how the Academic Plan has been implemented. The second part of the report addressed next steps as we look forward to the development of the next Academic Plan. At the June 4<sup>th</sup> meeting, M. McPherson presented her report to the Committee. The report was subsequently posted on the Vice-President (Academic) and Provost Website. Comments were requested.

At the September 15<sup>th</sup> meeting M. McPherson reported that feedback was received and that the report is now posted, with amendments. A report on implementation of the 2006 Academic Plan with regard to graduate programming will be reviewed at the next meeting.

The 2009/10 Academic Planning Exercise will begin when the University has an approved Strategic Plan. The Senate Academic Committee, as per its terms of reference, will develop an Academic Plan to operationalize all academic components of an approved Strategic Plan.

## **5.2 Report of the Ad Hoc Writing Sub-Committee**

At the June 4<sup>th</sup> meeting, D. Ivison, on behalf of the Ad hoc sub-committee, circulated a response to Deans' Council Recommendations, which contained five further recommendations for implementation of a Writing Centre. The Committee moved to accept these recommendations. Over the summer months, the Ad hoc sub-committee drafted a call for a Writing Centre Coordinator.

At the September 15<sup>th</sup> meeting, the Committee heard a report from B. McLaren. The committee agreed that in accordance with the Ad hoc sub-committee's recommendations, a working sub-committee should be established. A memorandum will be sent to Faculty Deans asking for a nomination from each Faculty.

### **6.1 (ii) Calendar Addition to Undergraduate Application Procedure – Full Disclosure on Application Form**

The Committee moved to accept the revised calendar wording.

### **6.1 (iii) Adjustment to General University Regulation IV (j)**

The Committee moved to accept the revision to the regulation.

Respectfully submitted,

G. Siddall, Chair

## **Senate Academic Committee - Quality Assurance Committee**

*(September 15, 2009)*

Seven (7) days notice shall be given for all meetings except that a meeting may be held at any time without due notice if all members of the Committee are able to be present and/or consent thereto.

**Quorum:** Unless otherwise stated in the approved terms of reference, quorum for Senate and all Senate committees is a simple majority of all filled positions

### **Composition:**

1. Associate Vice-President Academic (Non-voting)
2. Dean of Graduate Studies
3. One other Dean – appointed from SAC
4. Chair of SAC
5. Four full-time tenured faculty members nominated by SAC. A minimum of one of the four members shall be a member of SAC. A minimum of one of the four members shall be a full-time tenured faculty member appointed at the Orillia Campus.
6. One undergraduate and one graduate student appointed by SAC

### **Terms of Office:**

- 1, 2, 4 ex officio
- 3 two -year term (renewable)
- 5 two -year term (renewable)
- 6 one-year term (renewable)

### **Organization:**

1. Associate Vice-President Academic to serve as Chair
2. Administrative Assistant to the Vice-President (Academic) & Provost to serve as Secretary
3. Administrative Office - Office of the Vice-President (Academic) & Provost

### **Terms of Reference:**

1. To oversee undergraduate program reviews in accordance with the Provincial Undergraduate Program Review Audit Committee Guidelines.
2. To review, revise, and develop where necessary internal policies pertaining to the review and approval of new undergraduate programs.
3. To review, revise, and develop where necessary internal policies pertaining to the periodic review and approval of undergraduate programs.

4. To evaluate any new undergraduate program against specific criteria outlined in the Lakehead University policy and procedures for review and approval of new programs.
5. To provide a written report to the Senate Academic Committee following the review of any new program proposal highlighting results and recommendations.
6. Oversee the site visit process, including selecting external and internal consultants in accordance with the internal policies for the periodic review and approval of undergraduate programs.

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## MEMORANDUM

**Date:** May 8, 2009

**To:** Senate Academic Committee

**From:** Marian Ryks-Szelekovszky  
Vice-Provost (Student Affairs)/Acting Registrar

**Subject:** Calendar Addition to Undergraduate Application Procedure - Full Disclosure on Application Form

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Students applying for admission to the University sign documents in the Ontario University Application Process that indicates that it is the responsibility of the student to ensure the application information is truthful, complete and correct. The student accepts responsibility for the accuracy of the application and acknowledges that there are consequences in the event that the information submitted is not accurate or truthful.

It is prudent for the University to reference this responsibility and expectation within the calendar as part of the Undergraduate Application Procedure (page 32 of 2008/09 printed calendar or <http://calendar.lakeheadu.ca/current/contents/admissions/adminfo.html>) under the Application Forms section (highlighted area).

### APPLICATION FORMS

Students should apply for admission to programs at Lakehead University and be admitted, before registration may take place.

1. Students in Ontario high schools applying for entry to degree or diploma programs apply on the General Application Form - OUAC 101, which may be obtained from their school and which is directed to the Ontario Universities' Application Centre in Guelph, Ontario.
2. Students not currently full-time Ontario high school students should contact the Office of Admissions and Recruitment for the appropriate application form.
3. When requesting a university application form, candidates should outline their academic backgrounds in the context of admission requirements specified in the University Calendar and specify the Faculty Program and Major to which they wish to be admitted.

Students who have been required to withdraw from another post-secondary institution for academic reasons, are not eligible to be considered for admission for at least 12 months following the date of dismissal. Admission is not automatic. Such applicants must meet the competitive admission criteria specified by the individual program.

It is the student's responsibility to ensure that application information is truthful, complete and correct. The University reserves the right to verify any information provided as part of the application. If information in the application form is determined to be false or misleading, concealed or withheld, the application may be invalidated which could result in its immediate rejection or in the revocation of an offer of admission or expulsion from the University. Information about a rejection or revocation of an application may be shared with universities and colleges across Canada. The determination of whether an application contains false or misleading information or that an applicant has concealed or withheld information and with which universities and colleges this information may be shared is solely in the discretion of the University, if applicable, and the Ontario University Application Centre.

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## MEMORANDUM

**Date:** June 29, 2009

**To:** Senate Academic Committee

**From:** Marian Ryks-Szelekovszky  
Vice-Provost (Student Affairs)/Acting Registrar

**Subject:** Adjustment to General University Regulation IV (j)

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A revision is being proposed to General University Regulation IV Examinations item (j).

### Current wording:

Unless specifically states on the examination paper, or previously approved by the invigilator concerned, there is to be no material in the form of books, notes, or portable cassette recorders available to the student, save that issued to him/her by an invigilator.

### Revised wording:

Unless specifically stated on the examination paper, or previously approved by the invigilator concerned, there is to be no material in the form of books, notes, calculator or any other electronic listening and/or viewing device, including but not limited to cell phone, blackberry, etc, taken into the examination room.

**A Report on an Honour's Bachelor of Science Degree in  
Resource and Environmental Economics (HBScREE)**

***A SUBMISSION PREPARED FOR THE SENATE ACADEMIC COMMITTEE OF  
LAKEHEAD UNIVERSITY***

***By***

***The Department of Economics***

**November 25, 2009**



## **Executive Summary**

The sustainability of the environment and the natural resource base is a key 21<sup>st</sup> century issue especially in light of climate change and global warming. Degrees and programs in resource and environmental economics have become more prevalent and a number of universities now have graduate and undergraduate programs in resource and environmental economics housed jointly across disciplines and faculties.

The Economics Department in conjunction with the Faculty of Science and Environmental Studies proposes a 4-year Honour's BSc in Resource and Environmental Economics (HBScREE) that combines the analytical content of a degree in economics with scientific literacy and knowledge of natural resources and the environment. The curriculum for this program consists of courses that are already being offered by the environmental studies program and the department of Economics but which until now could not be combined in a synergistic fashion. The learner outcomes for this program will stress the interplay between economics, environment and science. Given the rising demand for environmental science specialists, the continued importance of resource industries and environmental issues and the expected increase in demand for individuals with economics training, we anticipate this will be a program that Lakehead can successfully market throughout the North American student market.

# 1. Introduction

The Economics Department in conjunction with the Faculty of Science and Environmental Studies proposes an Honour's BSc in Resource and Environmental Economics (HBScREE) that combines the analytical content of a degree in economics with scientific literacy and knowledge of natural resources and the environment in a degree that would provide the student with the analytical tools to analyze public policy in the resource and environmental sectors with the backgrounds of both economic analysis and science.<sup>1</sup> Such policy advice could be applied to recreation, agriculture, wildlife habitat, industry, public health, logging, mining, water quality and energy issues. This degree would be unique compared to those offered at other universities in that it would focus primarily on natural resource and environmental issues from the perspectives of mining, forestry, wildlife, and water resources and not from agriculture. Moreover, this new program is consistent with the principles informing the culture of Lakehead University as part of its role serving the people of Northwestern Ontario – a natural resource intensive region.

The sustainability of the environment and the natural resource base is a key and pressing 21<sup>st</sup> century issue. Within economics, the sub-field of environmental economics deals with resource allocation and choices made with respect to policies dealing with water quality, air pollution, waste disposal and climate change. The sub-field of natural resource economics deals with the economics of resource extraction and resource depletion and the use of the resource base to ensure future availability. Degrees and programs in resource and environmental economics have become more prevalent and a number of universities now have graduate and undergraduate programs in resource and environmental economics housed jointly across disciplines and faculties.

At the University of Wisconsin, the Department of Agricultural and Applied Economics in the Department of Agricultural and Applied Life Sciences has degrees with majors in natural resources and environmental economics. Similarly, the University of Nebraska-Lincoln has a natural resource and environmental economics program in their Agricultural Economics faculty that combines natural science with economics, law, and other social sciences. At the University of Guelph, the Department of Food, Agricultural

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<sup>1</sup> A recent report by the American Council of Trustees and Alumni on general education requirements at 100 U.S. colleges and universities – *What Will They Learn? (2009)* - argues that students are generally deficient in a number of areas including economics, mathematics and science which have become mainly options on a number of campuses but are seen as essential to future U.S. competitiveness in the world economy.

and Resource Economics has graduate programs that emphasize the economics of agricultural markets, food business economics and natural resource and environmental economics.

There appears to be a tradition in North America of programs in resource, environmental and land economics originating in faculties or programs rooted in agricultural study. This tradition is rooted in the economic history of agricultural settlement on the resource frontier. The economics content in these programs is usually limited to courses in micro- economics, environmental economics and natural resource economics. On the other hand, in England, the Department of Economics at the University of Birmingham has an MSc in Environmental and Natural Resource Economics that is primarily economics oriented with no environmental or natural resource courses from a scientific perspective.<sup>2</sup> Our proposed program is unique in the manner in which it combines the academic intensity of an economics degree with the scientific depth and breadth of an environmental science degree.

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<sup>2</sup> The Birmingham degree structures its courses as follows: microeconomics, econometrics for environmental evaluation, environmental economics, natural resource economics, risk & uncertainty and then a set of economics electives. See <http://www.economics.bham.ac.uk/study/postgrad/environ.shtml>.

## 2. The Program

### 2.1 Admission Requirements

The proposed admission requirements for the HBSc in Resource and Environmental Economics (HBScREE) are designed to provide a background for university studies in both science and social science and are suggested as follows:

- 1 Credit Grade 12 University English
- 2 Credit Grade 12 University Math (from Advanced Functions, Calculus and Vectors or Data Management)
- 1 Credit Grade 12 University Science (from Chemistry, Biology, Physics, or Earth and Space Science)
- 2 additional Grade 12 credits (World History or Geography recommended).

We would set the minimum admission average at 70 percent to ensure that students have the academic ability to pursue what is going to be a rigorous academic program. As for the specific requirements: A credit in university English provides recognition of the importance of language and literary skills as part of the preliminary preparation for this degree. The credits in mathematics are to provide the technical background needed to study higher theory economics as well as learn and apply the statistical and econometric tools required. The science credits will provide the scientific background for the environmental science components of the program. These requirements are quite similar to the admission requirements for other science programs. The credits in world history and geography are to provide the well-rounded and balanced perspective needed to assess the broader societal impact of natural resource economics and environmental issues in an era of global climate change.

### 2.2 Curriculum

The curriculum design for this program is intended to combine rigorous specialist knowledge in environmental science with the analytical tools of economic theory and empirical technique. The current teaching and research expertise of the Economics Department covers the economic curriculum requirements as laid out in this degree and is detailed elsewhere in this document (See Appendix B). This degree's proposed curriculum is in keeping with the commitment of the Academic Plan (p. 15, Section III) to:

“educating students who are recognized for their **leadership** and **independent critical thinking** and who are aware of **social** and **environmental** responsibilities”

This proposed new program integrates this commitment into the courses and learning path of the degree as laid out below:

## **Proposed Program Structure**

### **Year I**

Economics 1100

Calculus 1180

Political Science 1100 or History 1100

Environmental Studies 1120/Geography 1120

1 additional FCE Science

### **Year II**

Math 2331 (Statistics 1), Math 2333 (Statistics II)

Economics 2203 (Intermediate Macroeconomics), Economics 2017 (Intermediate Micro I), Economics 2037 (Intermediate Micro II), Economics 2212 (Environmental Economics)

Environmental Studies 2013/Philosophy 2013 (Environmental Philosophy)

Environmental Studies 2210/Biology 2210 (Introductory Ecology).

0.5 FCE Environmental Studies (Science Stream) at second or third year level.

### **Year III**

Economics 3117 (Mathematical Economics),

Economics 3131 (Cost-Benefit Analysis),

1.5 FCE Economics Elective at the second, third or 4<sup>th</sup> year level.

2.0 FCE Environmental Studies (Science Stream) at third or fourth year level.

0.5 FCE Environmental Studies (Arts Stream) at third or fourth year level.

### **Year IV**

Economics 4217 (Econometrics)

Economics 4531 (Natural Resource Economics)

1 FCE Economics elective at the third, fourth or 5<sup>th</sup> year level.

Environmental Studies 4800

1.5 FCE Environmental Studies (Science Stream)

0.5 FCE Environmental Studies (Arts Stream).

### **Commitment to Academic Plan Directives**

The key economics courses in this proposed degree designated to impart the commitment “to educating students who are recognized for their **leadership** and **independent critical thinking** and who are aware of **social** and **environmental** responsibilities” are described as follows: (**See Appendices C-F for Bubble Diagrams**)

#### ***Independent Critical Thinking (Appendix C)***

All economics course in this degree foster the capacity of independent analysis and evaluation of policy issues and critical thinking using marginal analysis and the cost-benefit principle. However, the tools of welfare economics are particularly useful to critical thinking and these are imparted in Economics 2037.

##### *Economics 2037 (Intermediate Micro II)*

Social choice using economic principles is studied in this course. How do we decide on optimal policies? How do we aggregate preferences and make decisions that affect the many? How do we weight the needs of the few versus the needs of the many? What is the role of information asymmetry in shaping the decision making process? Principal-agent problems and strategic interaction round out the tools required for independent critical thinking and the ability of a student to think for themselves. Assessment methods for this course will include tests, and/or assignments. Lecture techniques will impart most material.

#### ***Environmental Responsibilities (Appendix D)***

##### *Economics 2212 (Environmental Economics)*

The basic theory of externalities and economic environmental awareness will be imparted in this course. Students will learn that all economic activities have an environmental and social impact and that government intervention to mitigate negative environmental externalities is sometimes required. To every economic action, there is an environmental reaction. Case studies of environmental impact issues will be reviewed. Assessment methods for this course will include tests, assignments and projects. Lecture techniques will impart most material.

##### *Economics 4531 (Natural Resource Economics)*

The economics of optimal and sustainable resource harvesting and economic activity will be studied in this course. This course applies economic analysis to the natural resource and environmental management problem. We will look at non-renewable and renewable resources in both a static and dynamic environment. Environmental management looks at problems created by pollution and the consequences of the pollution problem using models common to economics. Finally, policy analysis is considered to look at the role of government intervention in the natural resource management and environmental/pollution problems. Part of the

emphasis of the course will be in the distinction between renewable and non-renewable resources and the social responsibility that we have to ensure the sustainability of these industries for future generations. Assessment methods for this course will include tests, assignments, presentations, case studies and projects. Lecture techniques will impart most material.

### ***Social Responsibilities (Appendix E)***

#### *Economics 3131 (Benefit-Cost Analysis/Project Appraisal)*

Students will learn program evaluation and the measurement of social and economic impacts of environmental programs. Lecture methods and case studies will be employed to deal with specific environmental issues and student project assignments will hone the necessary skills designed to foster independent critical thinking as well as an awareness of social and environmental responsibilities. Assessment methods for this course will include tests, assignments and projects. Lecture techniques will impart most material.

#### *Economics 2203 (Intermediate Macroeconomics)*

Part of social responsibility is ensuring that initiatives are also fiscally responsible and intermediate macroeconomic theory will provide students with the background to assess fiscal policy and government budgetary positions in an independent and critical manner. This course will be taught primarily via lecture methods. Assessment methods for this course will include tests, assignments and projects.

### ***Leadership (Appendix F)***

#### *Economics 1100 (Principles of Economics) & Economics 2017 (Intermediate Microeconomics I)*

Modern leadership in both government and organizations requires a basic familiarity with the issues of resource scarcity and choice, opportunity cost and budget constraints and Economics 1100 provides a survey of these issues in both a microeconomic and macroeconomic context. This is further reinforced by intermediate microeconomic theory (Economics 2017) that extends the theory of the consumer and the firm into a more sophisticated framework for analysis. Current economic affairs (media reports) will be used to demonstrate environmental issues and the role of political leadership in resolving them. Assessment methods for this course will include tests, and/or assignments. Lecture techniques will impart most material.

## **2.3 Learner Outcomes**

### *Anticipated Outcomes*

The learner outcomes for this program will stress the interplay between economics, environment and science.

- Awareness and knowledge of the interdisciplinary nature of environmental and natural resource issues.
- Knowledge of the scientific elements of environmental science and natural resource issues.
- Understand the physical and biological properties of the environment and biological and ecological systems.
- Understand how economic activity impacts the environment.
- Familiarity with the application of economic principles and tools of economic analysis and their application to environmental and natural resource topics.
- Know, understand and use quantitative and empirical tools of data analysis including economic modeling and regression analysis.

See also Appendix A for a list of Economics degree specific learner outcomes.

### *Assessing Graduate & Student Outcomes*

To assess the graduate (completer) outcomes of this program, we propose to partner with Institutional Analysis and Alumni Affairs for a follow-up survey of the first three graduating classes. As well, we will have the results of student satisfaction surveys to assess the teaching and advising activities. In addition, the periodic internal and external reviews of undergraduate programs will also provide a mechanism for determining the extent to which the academic program meets its objectives in terms of student and learner outcomes.

### *Licensure Examination Requirements*

There are no licensure examination requirements associated with this program.



## ***2.4 Graduate Employment Opportunities***

Graduates with a HBScREE will have the necessary academic background to pursue graduate work in either Economics or in graduate Natural Resource and Environmental programs. As well, there are excellent career prospects for graduates of such a program. Examples of some of the potential career possibilities are:

- Resource Management Specialist
- Environmental Consultant
- Environmental Policy Analyst
- Environmental Economics Analyst
- Environmental or Industry Lobbyist
- Legislative Assistant
- Land Conservancy Director
- Environmental Interest Groups
- Industry Trade Associations
- Local Governments
- Environmental Consulting Firms
- Provincial and Federal Agencies
- Private Industry

## 2.5 Program Viability

### *Student Demand*

The employment projections of the U.S. Bureau of Labour Statistics<sup>3</sup> show a rising demand for occupations in environmental and resource management, and economics. Given the integration of the Canadian and U.S. economies, such a demand can be expected to also affect the Canadian market as well as influence student demand given that Canadians have employment opportunities available in the United States. According to the BLS, the demand for environmental scientists and specialists is expected to increase by 25.1 percent from 2006 to 2016. Over the same period, the demand for economists is also expected to rise by 7.5 percent.

### *Expected Student Enrollments*

While it is difficult to predict actual demand, we are aiming at an intake of between 5-10 students per year based on the size of the Department and current staffing of 5 full-time faculty as well as the rigorous nature of a program requiring facility in environmental science, math, economic and statistical analysis. We expect the program to be marketed nationally and these enrollments would represent net new additions to the university. Within four years, the expectation is to have 20-40 undergraduate majors registered in the program. We currently have a course-count to full-time faculty ratio of 140 and this additional enrollment based on current staffing would raise the course count to full-time faculty ratio to the range of 150 to 160 representing an increase of 7 to 14 percent in course counts per faculty within four years.<sup>4</sup> In addition, some of these students may also choose to further their education in Economics by enrolling in the MA Economics program once having completed the HBScREE. It will take some time to establish a large and consistent student stream, which often is accomplished by word of mouth via the success of graduates from the program.

### *Sustainability*

The sustainability of this program is predicated on a demand for the program and given the projected growing demand for environmental scientists and specialists as well as economists, we expect that growth in this field will generate a sustainable program enrollment.

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<sup>3</sup> See <http://www.bls.gov/emp/optd/>

<sup>4</sup> This is based on multiplying expected enrollment of undergraduate majors in fourth year by an average of 2.5 courses per year.

### *Potential Revenue Sources*

The revenue for this undergraduate program will come from tuition and BIUs. Local environmental firms and regional municipal governments will require students with these skills and there is the potential for a co-op option. In addition, there may be the potential from some aspects of the program to be offered online and if appropriately packaged and marketed, this could also serve as a source of revenue.

### *Costs*

This new program is completely cost-neutral for the Economics Department and the University as it will make use of courses that are currently being offered by faculty and which currently have sufficient capacity for additional enrollment. We have 5 full-time tenured faculty and they have sufficient expertise to offer the courses in this program. (See Appendix B for a detailing of faculty expertise).

## **Appendix A: Learner Outcomes for Economics Graduates at Lakehead University**

- Analyze the determinants of consumer behaviour in a utility maximization framework,
- Analyze the determinants of firm behaviour in a profit maximization framework.
- Familiarity with the basic models of market structure: Perfect competition, monopoly, oligopoly, monopolistic competition,
- Apply game theory to strategic interaction scenarios,
- Be able to describe and use the IS-LM model of the macro-economy,
- Understand and apply concepts in macroeconomic analysis such as real business cycle theory, rational expectations,
- Understand the open economy, capital flows and exchange rate determination and analyze interest rates; know the basic rationale for international trade.
- Know the major schools of macroeconomic thought — Keynesian, Classical, New Keynesian, New Classical, Monetarist, Real Business Cycle
- Analyze the business cycle and its impact on government budget processes
- Evaluate the economic impact of expenditures in closed and open economies
- Use the scientific method to analyze and interpret data
- Understand and apply the basic classical linear regression model
- Apply time series regression techniques
- Apply selected panel estimation regression techniques
- Be able to design and implement a research data analysis project on an economic problem or issue
- Use a statistics package such as STATA or SHAZAM
- Demonstrate an understanding of the role of economics in business and political policy analysis
- Demonstrate an understanding of the role of the economist in implementing a healthy and sustainable economy and fostering critical thinking and environmental and social responsibility.
- Critically review and report literature, develop research questions, plan research methods, collect, analyze and interpret data, and present results in a clear and concise manner.
- Objectively critique opposing viewpoints to make reasoned judgments.

## APPENDIX B: FACULTY RESOURCES

### *Faculty List*

- Livio Di Matteo, Professor, Chair & Undergraduate Advisor, (health economics, public finance, program evaluation, economic history)
- Bakhtiar Moazzami, Professor, (econometrics, macroeconomics)
- Robert Petrunia, Associate Professor (microeconomics, natural resources, industrial organization, econometrics, game theory)
- Michael Shannon, Associate Professor (labour economics, environment, cost-benefit)
- Kam Yu, Associate Professor & Graduate Coordinator (microeconomics, social and economic measurement, institutional economics)

### *Publications and Research Funding of Department Members*

## Livio Di Matteo

### Refereed Journal Articles

- 2009 “Policy Choice or Economic fundamentals: What Drives the Public-Private Health Expenditure Balance in Canada,” *Health Economics, Policy and Law*, 4,1, 29-53.
- 2008 “Wealth accumulation motives: evidence from the probate records of Ontario, 1892 and 1902,” *Cliometrica*, 2, 143-171.
- 2007 “Assessing the effect of pharmaceutical patent term length on research and development and drug expenditures with Canadian evidence,” co-authored with P. Grootendorst, *Healthcare Policy — Politiques de Santé*, Vol.2, No.3, 63-84.
- 2007 “The Effect of Religious Denomination on Wealth: Who Were the Truly Blessed?” *Social Science History*, 31, 3, 299-341.
- 2006 “Is it better to live in a basement, an attic or to get your own place? Analyzing the Costs and Benefits of Institutional Change for Northwestern Ontario,” co-authored with J.C.H. Emery and R. English, *Canadian Public Policy*, 32(2), 173-196.
- 2006 “Wealth and Inequality on Ontarios Northwestern Frontier: Evidence from Probate,” *Histoire sociale-Social History*, XXXVIII:75, 79-104.

- 2005 "The macro determinants of health expenditure in the United States and Canada: assessing the impact of income, age distribution and time," *Health Policy*, 71,1, 23-42.
- 2004 "Boom and Bust, 1885-1920: Regional wealth evidence from probate records" *Australian Economic History Review*, 44(1), 52-78.
- 2004 "What Drives Provincial Government Health Expenditures?" *Canadian Tax Journal*, 52, 4, 1102-1120.
- 2003 "The Income elasticity of Health Care Spending: A Comparison of Parametric and Non-Parametric Approaches," *European Journal of Health Economics*, March, 4, 20-29.
- 2002 "Federal Patent Extension, Provincial Policies and Drug Expenditures, 1975– 2000," co-authored with Paul Grootendorst, *Canadian Tax Journal*, 50, 6, 1913- 1948.
- 2002 "Wealth and the demand for life insurance: evidence from Ontario, 1892" coauthored with J.C. Herbert Emery, *Explorations in Economic History*, 39, 4, 446- 469.
- 2001 "Public Home Care Expenditures in Canada," co-authored with Rosanna Di Matteo, *Canadian Public Policy*, Vol. XXVII, No. 3, 313-333.
- 2001 "Patterns of Inequality in Late 19th Century Ontario: Evidence from Census-Linked Probate Data" *Social Science History*, 25, 3, 347-380.

### Chapters in Books

- 2007 "The Use of Quantitative Micro-data in Canadian Economic History: A Brief Survey," *Economic History Services Encyclopedia*, Ed. Robert Whaples, January 28, 2007. URL <http://eh.net/encyclopedia/article/dimatteo.canada>.
- 2004 "A Brief History of Canadian Economic Policy," *The Encyclopaedia of Social Welfare History in North America*, S.J. Herrick and P.H. Stuart, eds., Sage Publications.
- 2002 "Arts education does pay off," in *Essay Essentials With Readings*, 3rd Edition, by Sarah Norton and Brian Green, Nelson, Pp. 232-233.
- 2001 "The State of University Education and the Liberal Arts," in *Missing Pieces II: An Alternative Guide to Post-Secondary Education*, eds. D. Doherty-Delorme and E. Shaker, Canadian Centre for Policy Alternatives. Pp. 127-135.
- 2001 "An Economic Perspective on the History of the Building of the Canadian Pacific Railway," *Canada, Confederation to the Present*, CD-ROM History Project, ed. Hesketh & C. Hackett, Chinook Multimedia.

## Conference Papers

- 2007 “Zipf, Gibrat and Wealth: Implications for the Interpretation of Canadian Economic History,” Canadian Economics Association Meetings, Dalhousie University, Halifax, June 1-3.
- 2005 “The Effect of Religious Denomination on Wealth,” Canadian Economics Association Meetings, McMaster University, Hamilton, May 26-29.
- 2005 “Natural Resource Exports, Wealth Accumulation and Development in Settler Economies: Northwestern Ontario and South Australia, 1905-1915,” (co-authored with H. Emery and M.P. Shanahan, Presentation by H. Emery & L. Di Matteo), Canadian Network for Economic History, Queens University, Kingston, Ontario, April 15-17.
- 2004 “Life Insurance and Wealth: Evidence from Ontario, 1892 and South Australia, 1905-1915” (Co-authored with M.P. Shanahan and H. Emery, Presentation by M.P. Shanahan), 5th World Cliometrics Congress, Venice International University, July 8-11, Venice, Italy.
- 2004 “The effect of pharmaceutical patent protection on research and development and drug expenditures: Evidence from Canada” (Co-authored with P. Grootendorst, Presentation by P. Grootendorst), 1st Conference of the Canadian Association for Health Services and Policy Research/Canadian Health Economics Study Group, May 25-28, Hyatt Regency, Montreal.
- 2003 “Wealth and Aging in Canada,” Canadian Network for Economic History: The Future of Economic History Conference, October 17-19, Guelph University.
- 2003 “The Macro Determinants of Provincial Government Health Expenditure: The Impact of Income, Age Distribution and Time,” Second Canadian Health Economics Study Group, Banff, Alberta, July 25-26.
- 2003 “Patent Protection, Research and Development, and Pharmaceutical Drug Expenditures: Evidence from Canada,” (Co-authored with P. Grootendorst; Presentation by P. Grootendorst) International Health Economics Association Meetings, 4th World Congress, San Francisco, June 15-18.
- 2003 “Wealth, Aging and the Elderly in Turn of Century Ontario,” 37th Annual Meeting of the Canadian Economics Association, Ottawa, Ontario, May 29-June 1.
- 2003 “Patent Protection, Research and Development, and Pharmaceutical Drug Expenditures: Evidence from Canada,” (Co-authored with P. Grootendorst; Presentation by P. Grootendorst) Ontario Ministry of Finance Presentation, Toronto, January 22.
- 2002 “Patent Protection, Research and Development, and Pharmaceutical Drug Expenditures: Evidence from Canada” (Co-authored with P. Grootendorst; Presentation by P.

- Grootendorst) Conference on Economics of Health Care Reform (Sponsored by the Department of Economics, University of Manitoba), Winnipeg, 2002-10-18.
- 2002 “The Income Elasticity of Health Care Spending: Comparing Parametric and Non-Parametric Approaches,” 36th Annual Meeting of the Canadian Economics Association, Calgary, Alberta, May 30-June 2.
- 2002 “Wealth, Inequality and Economic Change,” Canadian Network for Economic History Conference, Université de Montréal, Montréal, Quebec, April 5-7.
- 2001 “Determinants of public and private drug expenditures in Canada, 1975-1997,” co-authored with P. Grootendorst 9th Canadian Conference on Health Economics, Toronto, Ontario, May 23-26.

### Research Funding

- 2007-10 Social Sciences and Humanities Research Council Grant, Economic Booms, Wealth, Portfolio Composition and Development: Evidence from Historical Micro-Data (\$45,000).
- 2002-05 Social Sciences and Humanities Research Council Grant, Aid to Small Universities Research Center Grant, Resource Dependent Communities and the New Economy (Joint with T. Dunk et al.). (\$37,500)
- 2002-03 Social Sciences and Humanities Research Council Development Fund, Evaluating Health Care Allowances: An Experimental Approach, (Joint with J. Spraggon). (\$4,000)
- 2001 Father Sean O’Sullivan Research Center Seed Grant, The Effects of provincial drug cost control and federal patent policies on prescription drug expenditures in Canada: 1975-2000 (\$9,000) (Joint with P. Grootendorst).
- 1999-02 Social Sciences and Humanities Research Council Grant, Wealth and Economic Development in Ontario (\$48,506).

### Bakhtiar Moazzami

#### Refereed Journal Articles

- 2008 “Has the Business Cycle Been Dampened? The Case of Canada, Sweden and the United States”, Journal of Applied Business Research, March 2008.
- 2005 “Stock Returns and Inflation: Evidence from the United States”, Journal of International Strategic Management and Business Re-engineering, Vol. 1.



- 2005 “Dynamic Relationship Between Macroeconomic variable and Canadian Stock Market: Application of Cointegration and Error Correction Model”, Journal of Applied Business and Economics, Vol. 6 (4).
- 2003 “Return to Education among Native Population in Northern Ontario”, Canadian Journal of Native Studies, 2003.
- 2003 “Forecasting Northern Ontarios Native Population”, Canadian Journal of Native Studies, XXIII, 1, 93-102.
- 2003 “The Canadian Dollar: Long-term Equilibrium and Short-term Adjustments”, (with F.J. Anderson), Applied Economics, 35, 1527-1530.

### Books and Monographs

- 2008 Northeastern Ontario’s Forestry Industry: Short-Term Crisis, Long-term Solutions, 190p.
- 2006 An Economic Impact Analysis of the Northwestern Ontario Forest Sector.
- 2005 Thunder Bay Economic Development: A Roadmap to Success.
- 2004 Northern Ontario in the 21st Century: Opportunities and Challenges.

### Conference Papers

- 2008 Presentation at the CMA Ontario – Lakehead District conference: Northwestern ontario’s Economy: challenges and opportunities”, February
- 2008 Presentation at the FedNor Meeting in Thunder Bay on Northern Ontario’s economy. February 2008.
- 2007 Econometric Analysis of Thunder Bays Housing Market, prepared for the Thunder Bay Real Estate Board, Presented at the Annual Meeting of Thunder Bay Real Estate Board, November 2007.
- 2007 Forestry Industry in Northwestern Ontario Past, Present & Future, Presented at the Bio-Forest Energy Conference, Dorion, Ontario, 2007.
- 2006 Economic Impact of Forestry in Northwestern Ontario, Presented at the annual Meeting of Northwestern Ontario Forestry Council, April 2006.

## Robert Petrunia

### Refereed Articles

- 2008 "Does Gibrat's Law Hold? Evidence from Canadian Retail and Manufacturing Firms," *Small Business Economics* 30, 201-14.
- 2008 Kim Huynh and Robert Petrunia. "Entry Penetration in Canadian Manufacturing," *Economics Letters* 100, 87-90.
- 2007 "Impact of Initial Debt on the Long-Term Employment Growth of New Firms," *Canadian Journal of Economics*, 40(3), 886-880.

### Conference Papers

- 2008 Huynh, Kim, Robert Petrunia. "Firm Size Dynamics: Age Effects and Financial Frictions", paper presented to the 6<sup>th</sup> Annual International Industrial Organization Conference, Marymount University, Washington, DC – May 2008.
- 2008 Huynh, Kim, Robert Petrunia, Marcel Voia. "Start-Up Financial Conditions and Survival of New Firms", paper presented to the 35<sup>th</sup> Conference of the European Association for Research in Industrial Economics – Toulouse School of Economics, Toulouse, France – September 2008.
- 2008 Huynh, Kim, Robert Petrunia, Marcel Voia. "Start-Up Financial Conditions and Survival of New Firms", paper presented to the 42<sup>th</sup> Annual Meetings of the Canadian Economic Association – University of British Columbia, Vancouver, BC - June 2008
- 2007 Huynh, Kim P, Robert Petrunia, Marcel Voia. "Parametric Versus Nonparametric Unobserved Heterogeneity For Proportional Hazard Models: An Application To Entrant Firms In Canadian Manufacturing," paper presented to Canadian Econometric Study Group (Montreal, CA), 29/09/07.
- 2007 Huynh, Kim P, Robert Petrunia, Marcel Voia. "Duration of New Firms Across Entry Cohorts," paper presented to 14<sup>th</sup> International Panel Data Conference (Xiamen, China), 21/07/07.
- 2006 Huynh, Kim P, Robert Petrunia, Marcel Voia. "Duration of New Firms: Do Startup and Aggregate Conditions Matter?" paper presented to Latin American Meeting of the Econometric Society, Mexico City Nov. 2006.
- 2006 Huynh, Kim and Robert Petrunia, "Firm Entry and Exit in Canadian Manufacturing," paper presented to the 40<sup>th</sup> Annual Meetings of the Canadian Economic Association, Concordia University, Montreal, May 2006.
- 2005 Huynh, Kim and Robert Petrunia, "Financial Market Imperfections: Does it Matter for Firm Size Dynamics?" paper presented to the 22<sup>nd</sup> Annual Meetings of the Canadian Econometric Study Group, Simon Fraser University, Vancouver, Oct. 2005.

- 2004 “Does Gibrats Law Hold? Evidence from Canadian Retail and Manufacturing Firms,” paper presented to the 38th Annual Meetings of the Canadian Economic Association, Ryerson University, Toronto, May 2004.
- 2003 “Impact of Initial Debt on the Long-Term Employment Growth of New Firms” paper presented to the 37th Annual Meetings of the Canadian Economic Association, Carlton University, Ottawa, May 2003.
- 2002 “Start-up Conditions and the Post-Entry Experience of New Firms,” paper presented to Entrepreneurial Research Alliance Conference, Ottawa, Feb. 2002.

### Research Funding

SSHRC Strategic Research Grant – Management, Business and Finance, Principal Investigator, 2008-2011. Amount \$79,200.

SSHRC Research Development Initiative Grant – Management, Business and Finance, Co-Investigator, 2008-2009. Amount: \$40,000

SSHRC Standard Research Grant, Co-Investigator, 2007-2010. Amount: \$25,000

Statistics Canada Post-Doctorial Fellowship, 2005-2006. Amount: \$10,000

### Mike Shannon

#### Refereed Articles

- 2008 "Canadian Lone Mother Employment Rates, Policy Change and the US Welfare Reform Literature" (forthcoming Applied Economics)
- 2008 “Canadian Evidence on the Hourly Paid – Salaried Breakdown: Are Canadian Salaried Workers Missing Too?” Industrial Relations, Vol. 47, 2008, 591-601.
- 2005 “Projections of the Future Path of the Gender Gap in Great Britain” with M. Kidd (Aberdeen) International Journal of Manpower, Vol. 26, 350-363.
- 2004 “Mandatory Retirement and Older Worker Employment” with D. Grierson Canadian Journal of Economics, Vol. 37, 528-551.
- 2003 “Projecting the US Gender Wage Gap 2000-2040” with M. Kidd (Aberdeen) Atlantic Economic Journal, Vol. 31, 316-330.
- 2002 “The gender wage gap in Australia- The path of future convergence” with M. Kidd (Aberdeen) Economic Record, Vol. 78, 161-174.
- 2002 “Labour Market Institutions and the Gender Wage gap in Britain and Australia, 1973-1990” with M. Kidd (Aberdeen) Labour 16, 135-156.

- 2001 "Projecting the Trend in the Canadian Gender Wage Gap 2001–2031" with M. Kidd (Aberdeen) Canadian Public Policy XXVII.
- 2001 "Convergence in the Gender Wage Gap in Australia over the 1980s: identifying the role of counteracting forces via the JMP decomposition" with M. Kidd (Aberdeen) Applied Economics 33, 929-936.
- 2001 "Educational attainment and the gender wage gap" with P. Christie (INAC) Economics of Education Review 20, 165-180.

### Conference Papers

- 2003 "Mandatory Retirement Bans and Older Worker Employment" Presented at the Canadian Economics Association Meetings May 2003 (read).

## Kam Yu

### Refereed Articles

- 2008 "Econometric issues in hedonic price indices: the case of internet service providers," coauthored with Marc Prud'homme, Applied Economics, 99999:1, 1-22.
- 2005 "A Computer Software Price Index Using Scanner Data," co-authored with Marc Prud'homme and Dimitri Sanga Canadian Journal of Economics, 38(3), 999–1017.
- 2001 "Trends in Internet Access Prices in Canada," Report of the International Working Group On Price Indices Sixth Meeting, Canberra: Australian Bureau of Statistics, 1–34.

### Conference Papers

- 2007 "Measuring Health Care Output in Canada," paper presented to the CERPA Workshop on Regional Policy in a Period of Economic Growth, Moscow, Russia. June 21–22, 2007.
- 2007 "Welfare Effect of a Price Change: The Case of Lotto 6/49," presented to the 41st Annual Meeting of the Canadian Economics Association, June 1–3, 2007, Halifax, Nova Scotia. available at <<http://economics.ca/2007/papers/0199.pdf>>.
- 2006 "A Comparative Study of Hedonic Regression Techniques: The Case of Resale Houses," Paper presented to the Canadian Economic Association 40th Annual Meetings, May 26–28, 2006, Concordia University, Montréal, available at <<http://economics.ca/2006/papers/0406.pdf>>.

- 2005 “The Canadian Input-Output Tables in the System of National Accounts,” paper presented to the CERPA Workshop on Regional Policy in a Period of Economic Growth, June 25–26, 2005, Odintsovo-Vahromeevo, Russia.
- 2004 “International Comparisons of Health Care Output and Productivity,” paper presented to the Canadian Economic Association 38th Annual Meetings, June 4– 6, 2004, Ryerson University, Toronto, available at <[economics.ca/2004/papers/0388.pdf](http://economics.ca/2004/papers/0388.pdf)>.
- 2004 “Measuring the Output and Prices of the Lottery Sector: An Application of Implicit Expected Utility Theory,” Paper presented to the CRIW Conference on Price Index Concepts and Measurement, Fairmont Waterfront Hotel, Vancouver, Canada, June 28–29, 2004.
- 2003 “Software Price Indexes for Canada,” paper presented to the Brookings Workshop on Economic Measurement, The Brookings Institution, Washington, D.C., May 23, 2003.
- 2001 “Toward an Elementary Price Index for Internet Services”, paper presented to the Workshop on Communications Output and Productivity, The Brookings Institution, Washington, D.C., February 23, 2001.

## Research Funding

Grant: Policy Research Projects with Russia  
 Project: Development of Sub-National Accounting System for the Purpose of Regional Economic Analysis in Russia  
 Amount: \$16,500.00  
 Grantee: Association of Universities and Colleges of Canada and Canadian International Development Agency  
 Date: July 2004 – June 2005

Grant: Policy Research Projects with Russia  
 Project: Development of Regional Economic Accounts and Improvement of Regional Macroeconomic Indicators in Russia  
 Amount: \$23,500.00  
 Grantee: Association of Universities and Colleges of Canada and Canadian International Development Agency  
 Date: July 2005 – June 2006

## APPENDIX C: Independent Critical Thinking

### Lakehead University's commitment to ...

Educating students who are recognized for ... independent critical thinking

***Independent Critical Thinking*** involves using individually held knowledge and personal reflection to evaluate evidence and explanations on a particular topic and arrive at a judgment for its application to a particular situation

*Examples of independent critical thinking skills that are present in course curricula may include but are not limited to*

- *Formulating and supporting a position during a class debate*
- *Analysing the effect of a person or event*
- *Applying a theory or framework to contemporary situation*

### Program Learner Outcomes

- Awareness and knowledge of the interdisciplinary nature of environmental and natural resource issues.
- Knowledge of the scientific elements of environmental science and natural resource issues.
- Understand the physical and biological properties of the environment and biological and ecological systems.
- Understand how economic activity impacts the environment.
- Familiarity with the application of economic principles and tools of economic analysis and their application to environmental and natural resource topics.
- Know, understand and use quantitative and empirical tools of data analysis including economic modeling and regression analysis.

### Integrated into courses of the program

All economics course in this degree foster the capacity of independent analysis and evaluation of policy issues and critical thinking using marginal analysis and the cost-benefit principle. As Economists, all students will learn to "think for myself." The tools of welfare economics are particularly useful to critical thinking and these are imparted in Economics 2037

Economics 2037 (Intermediate Micro II)  
Social choice using economic principles is studied in this course. How do we decide on optimal policies? How do we aggregate preferences and make decisions that affect the many? What is the role of information asymmetry in shaping decision making? Principal-agent problems and strategic interaction round out the tools for independent thinking.

## APPENDIX D: Environmental Responsibility

### Lakehead University's commitment to ...

Educating students who are aware of ... environmental responsibilities

*Environmental responsibility considers the bioethical implications of human activities and their impact on the physical environment. Environmentally responsible entities voluntarily avoid practices that might adversely affect the use and enjoyment of the planet's resources by future generations, and take self-regulatory actions that protect and improve the environment as a whole. Individual environmental responsibility encompasses an individual's values and decision-making processes that guide behaviour. Environmental responsibility can be considered a sub-set of social responsibility.*

### Program Learner Outcomes

- Awareness and knowledge of the interdisciplinary nature of environmental and natural resource issues.
- Knowledge of the scientific elements of environmental science and natural resource issues.
- Understand the physical and biological properties of the environment and biological and ecological systems.
- Understand how economic activity impacts the environment.
- Familiarity with the application of economic principles and tools of economic analysis and their application to environmental and natural resource topics.
- Know, understand and use quantitative and empirical tools of data analysis including economic modeling and regression analysis.

### Integrated into courses of the program

#### **Economics 2212 (Environmental Economics)**

The basic theory of externalities and economic environmental awareness will be imparted in this course. Students will learn that all economic activities have an environmental and social impact and that government intervention to mitigate negative environmental externalities is sometimes required. Sometimes, people can also solve environmental problems without government.

#### **Economics 4131 (Natural Resource Economics)**

The economics of optimal and sustainable resource harvesting and economic activity will be studied in this course. Part of the emphasis of the course will be in the distinction between renewable and non-renewable resources and the social responsibility that we have to ensure the sustainability of these industries for future generations.

## APPENDIX E: Social Responsibility

### Lakehead University's commitment to ...

Educating students who are who are aware of social ... responsibilities

***Social responsibility** asks entities (government, corporation, organization or individual) to be aware of the impact of their actions on (particularly disadvantaged) members of society, act with concern and sensitivity; and collaborate with affected parties to create innovative and proactive solutions to societal (and environmental) challenges. Social responsibility is voluntary rather than legal and includes refraining from activities that create negative outcomes and acting in ways that protect and improve the welfare of people, communities, and society as a whole. Social responsibility is often linked to Corporate Social Responsibility (CSR).*

### Program Learner Outcomes

- Awareness and knowledge of the interdisciplinary nature of environmental and natural resource issues.
- Knowledge of the scientific elements of environmental science and natural resource issues.
- Understand the physical and biological properties of the environment and biological and ecological systems.
- Understand how economic activity impacts the environment.
- Familiarity with the application of economic principles and tools of economic analysis and their application to environmental and natural resource topics.
- Know, understand and use quantitative and empirical tools of data analysis including economic modeling and regression analysis

### Integrated into courses of the program

#### **Economics 3131 (Cost-Benefit Analysis)**

Students will learn program evaluation and the measurement of social and economic impacts of environmental programs. Case studies will be employed to deal with specific environmental issues.

#### **Economics 2203 (Intermediate Macroeconomics)**

Part of social responsibility is ensuring that initiatives are also fiscally responsible and intermediate macro economic theory will provide students with the background to assess fiscal policy and government budgetary positions in an independent and critical manner. Woe to socially irresponsible governments and institutions that exceed their budget constraints via foolish expenditures.



## APPENDIX F: Leadership

### Lakehead University's commitment to ...

Educating students who are recognized for leadership

*Leadership may be defined as an interactive process between two or more individuals directed toward accomplishing particular goals and outcomes*

*Examples of leadership experiences that are embedded in course curricula may include but are not limited to*

- *Completing group projects*
- *Participating in Service Learning projects*
- *Engaging in class discussions*
- *Facilitating group discussions or activities*

### Program Learner Outcomes

- Awareness and knowledge of the interdisciplinary nature of environmental and natural resource issues.
- Knowledge of the scientific elements of environmental science and natural resource issues.
- Understand the physical and biological properties of the environment and biological and ecological systems.
- Understand how economic activity impacts the environment.
- Familiarity with the application of economic principles and tools of economic analysis and their application to environmental and natural resource topics.
- Know, understand and use quantitative and empirical tools of data analysis including economic modeling and regression analysis.

### Integrated into courses of the program

#### **Economics 1100 (Principles of Economics)**

Modern leadership in both government and organizations requires a basic familiarity with the issues of resource scarcity and choice, opportunity cost and budget constraints and Economics 1100 provides a survey of these issues in both a microeconomic and macroeconomic context.

#### **Economics 2017 (Intermediate Microeconomics I)**

Intermediate microeconomic theory extends the theory of the consumer and the firm into a more sophisticated framework for leadership analysis of the actions of firms and households.