

UNIVERSITY OF MAINE SYSTEM NEW PROGRAM PROPOSAL

**I. Full program title.**

B.A. in Human Dimensions of Climate Change

**II. Program objectives.**

**A. Narrative description of program rationale.**

Climate Change is one of the leading environmental and human problems facing the world today. Melting glaciers and rising oceans with landward-moving shorelines are one side of the issue; shifting temperature and moisture patterns and the responses of earth's biota to these changes add to the dilemma. The other side of the problem is the human dimension, both with regards to impact and response. Humans contribute to global warming and environmental degradation, and humans alone can provide solutions to these problems through successful policy initiatives at local through global scales. A recent publication with numerous contributions from University of Maine faculty describes in detail the challenges facing Maine as our climate continues to change (Maine's Climate Future: An Initial Assessment. 2009. G.L. Jacobson, I.J. Fernandez, P.A. Mayewski, C.V. Schmitt, editors, University of Maine, 74 p.).

Solutions to the many problems arising from climate change will only be found with an understanding of the processes that govern both climate *and* human culture (understood in the broad sense of technological, sociological, and ideological systems). Successful policy decisions to mitigate climate change will be based on solid science and social science related to culture. There is a dire need to direct basic and applied research to understanding the human and natural causes and effects of climate change, as well as the cultural—that is, the international as well as the national—dimensions of these interactions and their consequences.

Basic scientific observations led us to our current understanding of past climate changes and the spectrum of possible future climate scenarios. Our current view of climate change has evolved from a variety of scientific disciplines. Current and future scientific work will provide a better understanding of the nature of changes to come, as well as the implications of these changes for people and ecosystems.

Social scientists have an extremely important role to play in assisting state, national, and world decision makers in understanding environmental problems and finding solutions to them. Social scientists work with policy makers, conduct research among local populations around the world, and on the basis of this work devise policies that take into account the social and cultural implications of policy decisions from local to international scales.

Anthropology is exceptionally well positioned to address these important dimensions of climate change. Anthropologists draw their data from all known human societies. Social anthropologists conduct extended periods of fieldwork in communities around the world; physical anthropologists and archaeologists reconstruct those of the past. As a result of this work, anthropologists have built up robust models and explanations of similarity and variance across cultures. They are unusually well equipped to investigate and understand responses to climate change by people whose cultural backgrounds may be radically different from those of the western world. They have a detailed knowledge of how environment and climate shapes cultures, and of how cultures shape their environments. And they are able to devise policies that take cultural differences into account in devising and managing climatic solutions.

It is our goal to create a degree program that produces students capable of rising to the human dimensional challenges of the climate-change issue. UMaine is already widely known for the research conducted by its Climate Change Institute. Institute faculty are jointly appointed and affiliated in academic units including Anthropology. This program will capitalize on the faculty, facilities, research, and graduate program currently in place by offering an undergraduate B.A. degree in the Human Dimensions of Climate Change (HDCC) that draws on the existing faculty and infrastructure of the Department of Anthropology and their affiliations and collaborations with the Climate Change Institute.

This degree program will be a signature program for UMaine because: 1) it will be based in an existing program of excellence, 2) the faculty, courses, and infrastructure are largely in place, and 3) no other such program exists in the nation.

By creating an exciting degree program revolving around the human dimensions of climate change, we will provide students with a thorough grounding in what is likely to become the most important environmental issue in their lives. Because the program will be unique, moreover, it should attract students from both within and out-of-state and offer them opportunities to work with faculty on exciting scientific questions in research areas all over the world. It promises also to transform UMaine into the first choice school of many students who would not otherwise apply here.

**B. General program goals (limit to 3-5 major items maximum).**

1. To provide students with a thorough grounding in what is likely to become the most important environmental issue in their lives.
2. To engage future climate policy makers in the interdisciplinary framework essential to bridge social and environmental sciences.

3. To produce future global citizens capable of rising to the challenges of the climate-change issue.
4. To provide UMaine with a signature program based in an existing area of excellence with faculty, courses, and infrastructure largely in place.
5. To increase the number of highly qualified and diverse students for whom UMaine is a first-choice institution.

### **C. Specific student outcomes or behavioral objectives.**

The program will engage students in the human dimension issues of one of the most important scientific and cultural challenges facing the world today. These engaged students will be able to understand the diverse human causes and impacts of climate change to better enact successful policy decisions at local, national, and international levels. The program will provide students with skills useful outside as well as within the academic environment. Specific skill sets are both quantitative and qualitative and focus on ethnographic methods and analysis such as participant observation, directed interviewing, and statistical analysis of qualitative and quantitative ethnographic data. We envision students finding positions in private business as well as in state, national, and international institutions that deal with policy decisions related to the human dimensions of climate management and change.

*Learning Outcome Assessments.* The centerpiece of the program's Learning Outcome and Assessments (LOAs) will be the Human Dimensions of Climate Change Seminars (I and II) offered in the student cohort's first and last semesters. If the program is approved, we look forward to working with the Center for Excellence in Teaching and Assessment to develop a Learning Outcomes and Assessment strategy that incorporates best practices for learning outcomes.

### **D. Accountability.**

This program will be unique; no other similar program exists. Students will be actively engaged in social science training and research based within the interdisciplinary framework. This program will incorporate largely existing faculty, courses, and resources within the Department of Anthropology with affiliation and collaboration from the Climate Change Institute, Earth Sciences, and the School of Marine Sciences. A full external program review will take place after five years. The program itself will conduct internal budgetary and curricular reviews in years two and five as well.

## **III. Evidence of program need.**

*Human Dimensions of Climate Change.* In response to growing awareness of the global climate crisis, we need to train future citizens in the interdisciplinary analysis of climate science, the complexities and intricacies of diverse global

cultures, and the implications of human social and cultural processes for climate change and efforts to mitigate and adapt to it. Our program in HDCC seeks to provide such solutions.

The Climate Change Institute offers an M.S. degree in Quaternary and Climate Studies, incorporating an academic program within a robust research center to produce the one of the best academic/research units focused on global climate change in the world. Graduate students come from all over the world to work with our renowned faculty, faculty who are jointly appointed in diverse academic programs across campus including Anthropology. Globally, we have a need for a trained workforce that understands the complexity of the human dimensions of climate change and can incorporate that understanding at all levels of decision making and in all arenas. We need to train not only graduate students but undergraduates as well who will find positions in private business and in state, national, and international institutions that deal with policy decisions related to climate management and change.

*The State of Maine.* A recent report on Maine's climate future (Maine's Climate Future: An Initial Assessment. 2009. G.L. Jacobson, I.J. Fernandez, P.A. Mayewski, C.V. Schmitt, editors, University of Maine, 74 p) submitted to the governor, outlines the measured changes that have taken place in Maine's climate and underscores the need to anticipate future changes as well. Warmer and wetter conditions will profoundly affect our economy, shifting vegetation communities, altering fisheries in the Gulf of Maine, possibly harming skiing and maple sugar industries, among other problems. Rising sea level along our coast already threatens whole beach communities, and coastal marshes are at risk of inundation. We are proposing to create a pool of young climate social scientists who, armed with an understanding of basic climate science and of the human dimensions surrounding climate change, will be poised to help society adapt to coming changes and capitalize on the new opportunities they offer. Given the expertise concentrated at the University of Maine, no other institution, public or private, in the State of Maine is as well positioned to offer this degree.

*Strategic directions at the University of Maine.* The proposed program will advance a number of goals of the UMaine Strategic Plan. The program aligns well with the *University's Strategic Plan, 2006-2011* to:

- 1) *be a first choice institution for highly qualified and diverse students* (Strategic Goal 1). Our proposed program is unique in the nation and likely to draw exceptional students with interests in climate change.
- 2) *increase research opportunities for undergraduate students, drawing on our strengths as a research university* (Strategic Goal 1.1.1). The undergraduates we attract will share our research experiences as well as opportunities to conduct research with our graduate students, who will serve as co-mentors with faculty on funded projects in Maine and around the world.

- 3) *increase the number and visibility of interdisciplinary programs* (Strategic Goal 1.1.2). This proposed cooperation between Earth Sciences and Anthropology involves faculty and units that already collaborate successfully with each other and with joint graduate students through the Climate Change Institute.
- 4) *develop new programs that maximize existing strengths* (Strategic Goal 1.1.2). The proposed new undergraduate program draws on faculty, facilities, and collaborations already in place in one of UMaine's highly successful graduate programs: the Climate Change Institute.

**A. For 2-year programs, indicate potential employers who have requested the program and their specific employment projections.**

NA

**B. Detailed survey of similar programs that are offered within the University System, other higher education institutions or other agencies within the State.**

There are no similar anthropology programs within the state or the nation.

**C. Enrollment projections for five years.**

The program is cohort based and is projected to attract excellent students from within and out-of-state. To begin with, we would admit 10 new incoming students each year for a four-year program total of 40 students. Anthropology currently has two active undergraduate degree programs, the B.A. in Anthropology (120 majors OIS) and the B.A. in International Affairs/Anthropology (23 majors OIS), as well as a new Ph.D. program in Anthropology and Environmental Policy that will admit its first students in Fall, 2012. In addition, Anthropology is actively involved in the M.S. in Quaternary and Climate Studies program through the Climate Change Institute (approx. eight candidates). We could admit a greater number of incoming students if resources were expanded beyond those stipulated in this proposal, but we are presently limited by the number of our students who can be accommodated in the two upper-level classes in Earth Sciences and Marine Sciences, ERS 369 and SMS 402 (see below).

**IV. Program content.**

**A. Outline of required and/or elective courses (not syllabi):**

The program centers on core courses in Anthropology but draws on courses in Earth Sciences, Marine Sciences, and Economics. Students will also complete a Capstone experience.

**Human Dimensions of Climate Change Core Courses** (24 sch):

- ANT 110 Seminar in Human Dimensions of Climate Change I (3)
- ANT 101 Introduction to Anthropology: Human Origins and Prehistory (3)
- ANT 102 Introduction to Anthropology: Diversity of Cultures (3)
- ANT 410 Seminar in Human Dimensions of Climate Change II (3)

Four of the following courses:

- ANT 250 Conservation Anthropology: The Socio-Cultural Dimensions of Environmental Issues (3)
- ANT270 Environmental Justice Movements in the United States (3)
- ECO 381 Sustainable Development Principles and Policy (3)
- ANT 420 Human Impacts on Ancient Environments (3)
- ANT 435 Human Dimensions of Natural Resource Management (3)
- ANT 464 Ecological Anthropology (3)
- ANT 466 Economic Anthropology (3)
- ANT 475 Environmental Archaeology

**Natural Science Climate Change Courses** (18 sch):

- 1) Introduction to the physical sciences (12 sch)

Students must complete the following three basic science courses:

- BIO 100: Basic Biology (4)
- CHY 121: Introduction to Chemistry (3)  
+ CHY123: Introduction to Chemistry Lab (1)
- PHY 111: General Physics 1 (4)

- 2) The Earth Science/Marine Science track (6 sch)

Students must also complete an Earth Science OR a Marine Science sequence.

- a) Earth Science sequence:

- ERS 121 Humans and Global Change (3)

And either:

- ERS 140 The Atmosphere (3)

Or:

- ERS 369 Energy Resources and Climate Change (3)

NB: Students will need to complete ERS 121 before they enter ERS 369

- b) Marine Science sequence:

- SMS 100 Introduction to Ocean Science (3)

- SMS 402 Oceans and Climate Change (3).

NB: Students will need to have completed two of the three courses in requirement

1) along with SMS 100 before they enter SMS 402.

**Capstone Research and/or Laboratory Experience** (3 sch):

The Capstone will involve one of the following:

- 1) The Capstone course in Anthropology (3)

- [the honor's thesis counts toward the capstone requirement]

- 2) An ANT497 independent study course in climate change (3).

**TOTAL SCH = 45 sch**

**B. Development of new courses and/or what they may displace:**

The only new course that needs to be developed for this program is *ANT 410 Seminar in Human Dimensions of Climate Change II*. The introductory, integrative seminar, *ANT 110 Seminar in Human Dimensions of Climate Change I*, was previously offered as an *ANT 490 Special Topics course*. The ANT410 course will not displace any other course, and it will be open only to the HDCC cohort.

**C. Type of research activity, if any, in program design**

Undergraduate student research activity will involve analyzing the intersection between climate change and human action, and potential avenues of research will be as diverse as the topic itself. A basic understanding of the climate/culture intersection will be presented in *Human Dimensions of Climate Change Seminar I*, at the beginning of the first year. Students will analyze current research on the topic and begin to grapple with the extent of the problem and the intermingled nature of needed solutions. Research, in the form of analytical papers and hands-on field or laboratory data collection, will also be conducted in mid- and upper-level courses and in the capstone.

For example, in *ANT 250 Conservation Anthropology: The Socio-cultural Dimensions of Environmental Issues*, students will be involved in the analysis of different types of human/environmental relationships across diverse cultural, socio-economic, and political contexts using case studies from around the world, culminating in an analytical research paper. In *ANT 420 Human Impacts on Ancient Environments* students will critically evaluate the relationship between humans and their environment in the past, assessing the local, regional and global impacts that we have had on our planet. This type of analysis will involve research into human-induced environmental changes through time and how these have and will impact contemporary resource management and environmental policy for the future. Again, their research experience will culminate in a broad-scale, analytical research paper.

**D. Nature of independent study, clinical experience, and/or field practicums employed in curriculum design**

N/A

**E. Impact of program on existing programs on the campus**

We expect the HDCC program to attract students to UMaine who would not otherwise apply here, with a disproportionately large number of applications coming from top quality out-of-state students. Given this probable student demographic, the program will not displace many students from other programs at UMaine.

The only programs outside anthropology that are likely to be impacted are the Honor's College and some physical science programs. The Honors College could be impacted in so far as the program is likely to attract high-quality students, many of whom may choose to participate in the Honor's College.

The departments of Biology, Chemistry, Physics, Earth Sciences, and Marine Sciences will be impacted in so far as program students will be taking some of their introductory courses. Since these courses are all Gen Ed service courses, program students will not negatively impact them any more than would any student in any UMaine program. Program students will also be taking an upper level course either in Earth Sciences or Marine Sciences. Enrollments in these two courses are limited, but Marine Sciences has agreed to accept and Earth Sciences have provisionally agreed to accept (subject to the outcome of an ongoing self-study) HDCC students into their upper level courses.

The main program to be impacted, therefore, will be Anthropology itself. Currently, Anthropology is operating close to its limits. The number of majors in both of its undergraduate programs (B.A. in Anthropology and B.A. in International Affairs/Anthropology) has increased by 87% over the past 5 years. Anthropology also teaches the most SCH/FTE of any unit at UMaine (1,115 SCH/FTE for AY 09-10, not including DLL production; data from Office of Institutional Studies). For comparison, the SCH/FTE for all UMaine units is 368.5 SCH/FTE, the College of Liberal Arts and Sciences is 440 SCH/FTE, and the College of Business, Public Policy and Health is 470 SCH/FTE (OIS).

In addition, Anthropology has just added a new Ph.D. program in Anthropology and Environmental Policy, which was approved in January 2011 without additional resources and will be admitting its first, small number of graduate students in Fall. Anthropology also advises graduate students in the M.S. programs in the Climate Change Institute and Environmental and Ecological Sciences.

The further, major complication is that Anthropology will be a central player in the new IGERT grant on Non-linear Climate Change recently awarded to the Climate Change Institute. Anthropology is the only PhD granting, social-science department on the project. We should therefore be in the running to recruit at least 2 of the annual complement of candidates for a total of 7-8 over the five years the grant will run. Further, each PhD candidate in this program has to have a natural science and a social science faculty member on his/her committee. The demand for anthropology faculty to serve on these committees (a total of 24 in total) will



therefore be intense. Finally, Professor Roscoe is slated to teach a new IGERT grad course every year, starting in the 2012-13 academic year.

Adding up to 40 additional students in a new program in HDCC will therefore present challenges for Anthropology. We do not anticipate problems in the large introductory anthropology classes these students will be taking, but they will create difficulties in the core mid- and upper-level courses they need to take – ANT 250, ANT 420, ANT 435, ANT 464, and ANT 466. Currently, these courses are taught primarily to anthropology majors, using writing intensive, research intensive, and/or laboratory intensive strategies. The HDCC Program will therefore increase competition for space. We anticipate that these core mid- and upper-level courses, which currently are offered every other year, will either have to be offered more frequently since most already enroll at or close to capacity or enrollment will have to be limited solely to majors.

To continue serving its current undergraduate and graduate students, to add new Ph.D. students, to accommodate the major demands of the new IGERT grant in Non-linear Climate Change, and to include new students associated with this program, Anthropology will request additional resources in the form of an additional tenure-track Assistant Professor and one graduate Teaching Assistant. The additional faculty position, an anthropologist with climate-change policy expertise, will allow us to offer the program's core courses more frequently and to add the specialized, senior seminar. The Teaching Assistant will be a Ph.D. student in the Anthropology and Environmental Policy program and will provide support for 100- and 200-level anthropology courses that teach large numbers of students and for the Human Dimensions of Climate Change Seminar sequence.

If demand grows beyond the number for which we have space, and no new resources are available above those requested in this proposal, then transfer into the program from elsewhere on campus and continuation in the program will need to be limited. A specific plan for these actions will be developed when and if needed.

## **V. Program resources.**

### **A. Personnel.**

The core of the program is already largely in place, faculty whose research is focused on the human dimensions of environmental issues. Some of these faculty are members of the Climate Change Institute or work on climate change research. These faculty will either be directly involved in teaching the program's courses, will help with advising students, participating in research projects, and providing guest lectures as needed, or are members of the department who will be carrying the load of maintaining our current programs. Participating faculty, whose vitae are in Appendix I, include in alphabetical order:

**Samuel Hanes**

Faculty Associate of Anthropology

**Stephen Hornsby**

Professor of Geography and Canadian Studies

Director, Canadian American Center

**Teresa Johnson**

Assistant Professor of Marine Policy

Cooperating Professor of Anthropology

**Alice Kelley**

Research Assistant Professor of Climate Change Institute

Cooperating Professor of Anthropology

**Lisa Neuman**

Associate Professor of Anthropology and Native American Studies

**Constanza Ocampo-Raeder**

Assistant Professor of Anthropology

Cooperating Professor in the Climate Change Institute

**Darren Ranco**

Associate Professor of Anthropology

Chair, Native American Programs

**Brian Robinson**

Associate Professor of Anthropology and Climate Change

**Paul (Jim) Roscoe**

Professor of Anthropology

Cooperating Professor of the Climate Change Institute

**Daniel Sandweiss**

Professor of Anthropology and Quaternary and Climate Studies

Dean and Associate Provost for Graduate Studies

**Kristin Sobolik**

Professor of Anthropology and Climate Change

Associate Dean, College of Liberal Arts and Sciences

**Marcella Sorg**

Research Associate Professor, Margaret Chase Smith Policy

Center, Climate Change Institute, Department of

Anthropology

**Timothy Waring**

Assistant Professor of Human Ecology

Cooperating Assistant Professor of Anthropology

**Catherine West**

Assistant Professor of Anthropology and Climate Change

**Gregory Zaro**

Assistant Professor of Anthropology and Climate Change

**1. Specific effect on existing programs of faculty assignments to new program.**

All of the courses needed for this program are currently in place except for ANT 410 Human Dimensions of Climate Change Seminar II. The mid- and upper-level courses currently in place are near or at capacity so would need to be offered more frequently to accommodate more students. To cover the Human Dimensions of Climate Change Seminar, increased enrollments, and/or the increased frequency in offering our mid- and upper-level courses will involve faculty reassignment and faculty and graduate teaching assistant additions.

**B. Current library acquisitions available for new programs.**

Library holdings are generally adequate in Anthropology and in many of the fields that will support this program.

**C. New equipment necessary for new program and plan for its acquisition and implementation.**

Equipment needs for this program are either in place or can be acquired through normal grant channels.

**D. Additional space requirements, if any, including renovations.**

This program does not require additional laboratory or other space. Anthropology has five active research laboratories.

**E. Extent of cooperation with other programs, both on the initiating campus and other campuses.**

The Climate Change Institute is one of the best academically-oriented climate change-focused research groups in the nation, and the Institute is supportive of all aspects of this proposal. Many Climate Change faculty are appointed and affiliated in Anthropology.

Most of the courses in the natural science component of the new program (BIO 100, CHY 121, CHY 123, ERS 121, PHY 111, SMS 100) are already offered on campus each year as large Gen Ed courses. We have agreements from Marine Sciences and Earth Sciences to reserve seats for HDCC students in the three other required science classes, ERS 140, ERS 369 and SMS 402.

**VI. Total financial consideration.**

An undergraduate program in the HDCC will be an opportunity for UMaine to attract students who would not necessarily apply or come to UMaine otherwise. This would be a signature program for UMaine because it would be based in existing units that are nationally and internationally recognized for their

leadership in cutting-edge research, the faculty and infrastructure are largely in place, and no other such program exists in the nation.

**A. Estimate of anticipated cost and anticipated income of the program for five years.**

The anticipated costs of the program are solely in the faculty and graduate teaching assistant positions needed to help teach new program courses, teach for reassigned faculty, and help with the already high enrollments and numbers in our current undergraduate offerings. The tenure-track position would be in Anthropology with an anticipated starting base salary of \$50K. That could increase incrementally over five years given AFUM salary increases. We estimate 2.0% salary increases per year, although that has not been the case for faculty over the past few years, for a total 5-year total cost of \$387,439 (Table 1). The Graduate Teaching Assistantship includes a base stipend of \$12,790, plus full-time tuition (9 sch/semester) that ranges from \$8,244 for in-state tuition to \$21,744 for out-of-state tuition, plus ½ of health insurance costs (\$1,183) for a 5-year total cost range of \$111,085 - \$178,585 (Table 2). **This brings the estimated anticipated cost of the program over a Five-Year Timeframe to be \$498,524 – \$566,024.**

Table 1. Estimated Cost of the Program over a 5-Year Timeframe; Assistant Professor Costs

	<b>Salary</b>	<b>Asst. Professor</b>
Year 1	Base/Stipend	\$50,000
	Benefits <sup>1</sup>	\$24,450
Year 2	Base <sup>2</sup>	\$51,000
	Benefits	\$24,939
Year 3	Base <sup>2</sup>	\$52,020
	Benefits	\$25,438
Year 4	Base <sup>2</sup>	\$53,060
	Benefits	\$25,946
Year 5	Base <sup>2</sup>	\$54,121
	Benefits	\$26,465
<b>TOTAL</b>		<b>\$387,439</b>
1 = Benefit rate is 48.9%		
2 = Estimate 2.0% Salary Increase/Year		

Table 2. Estimated Cost of the Program over a 5-Year Timeframe; Graduate Teaching Assistantship Costs

	<b>Salary per Position</b>	<b>Teaching Asst.</b>
Year 1	Stipend <sup>1</sup>	\$12,790
	Tuition and Fees <sup>2</sup>	\$8,244 – \$21,744
	Health Insurance <sup>3</sup>	\$1,183

Year 2	Stipend <sup>1</sup>	\$12,790
	Tuition and Fees <sup>2</sup>	\$8,244 – \$21,744
	Health Insurance <sup>3</sup>	\$1,183
Year 3	Stipend <sup>1</sup>	\$12,790
	Tuition and Fees <sup>2</sup>	\$8,244 – \$21,744
	Health Insurance <sup>3</sup>	\$1,183
Year 4	Stipend <sup>1</sup>	\$12,790
	Tuition and Fees <sup>2</sup>	\$8,244 – \$21,744
	Health Insurance <sup>3</sup>	\$1,183
Year 5	Stipend <sup>1</sup>	\$12,790
	Tuition and Fees <sup>2</sup>	\$8,244 – \$21,744
	Health Insurance <sup>3</sup>	\$1,183
<b>TOTAL</b>		<b>\$111,085 – 178,585</b>
1 = Minimum stipend set by the Graduate School 2 = Range includes In-State, NEHBE, and Out-of-State Tuition, estimate with no tuition increases 3 = Includes ½ Health Insurance costs, estimates with no cost increases		

Revenue will come in the form of increased tuition dollars from students who would not normally apply or come to UMaine. This is hard to specifically quantify, but we expect a moderate to large percentage of the students who are accepted into the program to be non-Maine residents paying out-of-state tuition. We also expect students enrolled in the degree program to be high-achieving individuals who may be awarded academic scholarships. Notably, this new degree will offer an exciting opportunity for students from other New England states because they have the option of paying a decreased out-of-state tuition for a program not offered in their own state (the New England Regional Program, NEHBE). The University of Maine has great strengths in Anthropology and Climate Change in comparison to any of the other New England states.

In AY 2010-11, Maine Residents pay \$267/sch, NEHBE students pay \$401/sch, and non-Maine residents pay \$768/sch. We are estimating and capping the number to 10 students in the program per year for a five-year total of 50 students. We estimate that 30% of the students will be Maine Residents, 30% will be NEHBE students, and 40% will be non-Maine residents (Table 3). We include the UMaine discount rate estimate of 39.4% to cover financial aid and scholarship reductions. **The estimated 5-year revenue for the program is \$1,291,943.**

**Estimated revenue from the program outweighs the costs by a range of \$725,919 to \$793,419.** Revenue can increase if more students were enrolled in the program. For the moment, we intend to cap enrollment at 10 students per year given space constraints in upper division ERS and SMS courses.

Table 3. Estimated Revenue of the Program over a 5-Year Timeframe

		Maine Residents	NEHBE	non-Maine Residents
Year 1	Students	3	3	4
	Tuition	\$24,030	\$36,090	\$92,160
Year 2	Students	6	6	8
	Tuition	\$48,060	\$72,180	\$184,320
Year 3	Students	9	9	12
	Tuition	\$72,090	\$108,270	\$276,480
Year 4	Students	12	12	16
	Tuition	\$96,120	\$144,360	\$368,640
Year 5	Students	12	12	20
	Tuition	\$96,120	\$144,360	\$368,640
<b>TOTAL TUITION</b>		\$336,420	\$505,260	\$1,290,240
		\$2,131,920		
		<b>\$1,291,943*</b>		
Estimate with no tuition increases. Assumes graduation in 4 years. * Estimate with UMaine discount rate of 39.4% (discount rate refers to the average discount on tuition and fees when financial aid and scholarships are taken into consideration).				

**B. Detailed information on first-year costs, including:**

**1. New personnel requirements (include employee benefits);**

One new tenure-track Assistant Professor in Anthropology

One Graduate Teaching Assistant

**2. First-year revenue and identity of source;**

First-year revenue will come in the form of increased tuition dollars from students who would not otherwise apply or come to UMaine. Please see Table 3.

**3. How operational costs are to be absorbed into current campus operating budget over a 5-year period;**

Operational costs, in the form of one assistant professor and one graduate teaching assistant, will come directly from the income generated by the program through tuition. Costs will be absorbed into the E&G Budget in the same way that the revenue brought in by the program will be absorbed into the E&G budget.

**4. What additional funding is required to support the program (identify the source);**

None.

**5. Lifetime of outside or independent funding and plan for how and when – becomes part of E&G budget.**

N/A

**VII. Program evaluation**

**A. A post audit of an approved new program must be made after two years.**

The program will undertake a review at the end of the second year as well as a five year review.

**VIII. Submitted By:**



Paul "Jim" Roscoe                      9-29-11



Kristin D. Sobolik                      12-28-10

**IX. Approved By:**

College of Liberal Arts and Sciences

Date

Associate Provost and Dean for Undergraduate Education Date

Provost

Date

President

Date

**APPENDIX I**  
**Vitae of Faculty Involved in the Program**



(see V.A.)

**Samuel Hanes**

Faculty Associate of Anthropology

**Stephen Hornsby**

Professor of Geography and Canadian Studies  
Director, Canadian American Center

**Teresa Johnson**

Assistant Professor of Marine Policy  
Cooperating Professor of Anthropology

**Alice Kelley**

Research Assistant Professor of Climate Change Institute  
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**Lisa Neuman**

Associate Professor of Anthropology and Native American Studies

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Assistant Professor of Anthropology  
Cooperating Professor in the Climate Change Institute

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Research Associate Professor, Margaret Chase Smith Policy  
Center, Climate Change Institute, Department of  
Anthropology

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