

# GRADUATE PROGRAM IN ENVIRONMENTAL SCIENCE AND POLICY (ES&P)

## STUDENT HANDBOOK 2009-2011

[www.clarku.edu/departments/idce/academicsGradESP.cfm](http://www.clarku.edu/departments/idce/academicsGradESP.cfm)

### Overview

The Environmental Science and Policy (ES&P) program at Clark University prepares students for evolving and critical careers at the intersection of environmental science and policy. ES&P continues a long tradition of innovation and creative contributions to environmental challenges – the current program has evolved from one of the first environmental programs in the country to explore relationships between environmental science, technology, and society.

Environmental challenges are complex. ES&P teaches students to use knowledge and methods from both the natural and social sciences, to integrate quantitative and qualitative analytical tools, and to understand the connections among environment, technology, society, and development.

With this program's course of study, the ES&P student is equipped with skills and perspectives to work with a wide array of stakeholders – communities, industries, governmental agencies, NGOs, researchers, and donors – in ways that are sensitive to cultural, institutional, socio-political, and economic needs.

ES&P students have opportunities to participate in high quality, meaningful research collaborations. They have access to faculty that have experience working with an ethnically and socially diverse student population. ES&P graduates are able to recognize, frame, characterize, and creatively address the many environmental problems facing the world today.

### Signatures

The ES&P graduate program is designed to foster a deep understanding of the complexity of environmental issues, and to expand abilities to respond to those issues. ES&P focuses on three signature topic areas:

1. **Environment and Human Health** – understanding and responding to local and global environmental health challenges.
2. **Climate, Energy and Sustainability** – understanding and responding to climate change at the local and global scale, energy and sustainable development challenges.
3. **Environmental Management and Policy** – understanding the role of science and technology in environmental policy making.

**Dear incoming ES&P student:**

Welcome! This handbook should give you a good sense of the program requirements and how to navigate your way through your two years in graduate school.

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## ES&P Course of Study

Completing the ES&P Master's degree requires completing 12 course units which includes one credit devoted to completing the final M.A. project. The 12 course units include five required core courses, two skills courses, and five elective courses. The core courses provide ES&P graduate students with a common academic foundation. Each of the four core ES&P faculty members teach a core course that all ES&P graduate students must take. The five elective courses allow students flexibility to take courses that will best help them meet their professional and academic objectives.. We encourage students to take advantage of the diversity of courses offered throughout Clark University, and consider enrolling in courses offered in the other programs in the Department of International Development, Community, and Environment, and in other departments (particularly geography, economics and biology) as approved by the student's faculty advisor.

### **Required Core Courses (5)**

The ES&P required courses include four core courses plus one required unit devoted to facilitating the completion of the final M.A. project. The core courses provide ES&P graduate students with a common academic foundation. The required courses are taught by the core ES&P faculty.

1. IDCE 363 Decision Methods for Environmental Management and Policy – a survey of methods that are currently used to aid environmental decision makers
2. IDCE 382 Management of Environmental Pollutants – Studies approaches to regulating hazardous chemicals in air, water, and food.
3. IDCE 30205 Climate Change, Energy and Development –explores the challenges associated with climate change, energy and development from multiple perspectives, disciplines and scales.
4. IDCE 30287 Fundamentals of Environmental Science – Covers the key scientific and technical topics and emphasizes quantitative skills of problem-solving.
5. IDCE 30213 Final Master's Project – All ES&P Master's students are required to register for one full unit of this course to facilitate completion of their final M.A. project. This course is taken with the student's M.A. final project faculty mentor. Students have the option of registering for 0.5 credits for two semesters or 1.0 credit in one semester. This course is pass/fail, the grade designation for this credit will not be given until the student has completed and submitted their final M.A. project.

### **ES&P Skills Courses (a sampling, 2 required)**

Note: This list is a sampling of skills courses, but students may request approval from their faculty advisor for other courses to be considered "skills" courses.

- IDCE 30218 Community Development Decision Making and Negotiations
- IDCE 30220 Advanced Remote Sensing
- IDCE 30225 Grant Writing for Community Developers
- IDCE 305 Qualitative Research Methods: Skills and Application
- IDCE 310 Introduction to GIS
- IDCE 324 Intermediate Quantitative Methods in Geography
- IDCE 332 Sustainable Development Assessment and Planning
- IDCE 334 Planning and Zoning for Community Developers

- IDCE 349 Advanced Topics in Spatial Analysis
- IDCE 357 Dynamic Environmental Modeling
- IDCE 366 Principles of Negotiation and Mediation
- IDCE 367 Quantitative Environmental Modeling
- IDCE 388 Advanced Vector GIS
- IDCE 396 Advanced Raster GIS

### **ES&P Elective Courses (a sampling, 5 required)**

Elective courses provide students the flexibility of designing much of their coursework to suit their own needs and to provide depth in a chosen area of focus. Students may take courses offered by the other three graduate programs in IDCE (International Development and Social Change, Community Development and Planning, and/or Geographic Information Science for Development and Environment) or in other departments, as approved by their Environmental Science & Policy faculty advisor.

- CHEM 142 Environmental Chemistry
- ECON 157 The Economics of Natural Resources and the Environment
- EN 341 Environmental Toxicology
- IDCE 30240 Community Planning Studio
- IDCE 30245 Natural Resource Management
- IDCE 30252 Green Business Management
- IDCE 30265 Environmental and Social Epidemiology
- IDCE 30269 Capitalism, Nature Development
- IDCE 30270 Environment, Poverty and Health
- IDCE 30276 Environmental Law
- IDCE 30277 Sustainable Production and Consumption
- IDCE 30287 Fundamentals of Environmental Science
- IDCE 30288 Applied Ecology
- IDCE 355 Global Health: Epidemiological Perspective
- IDCE 380 Urban Ecology

**Please view Clark's official Academic Catalog ([www.clarku.edu/academiccatalog](http://www.clarku.edu/academiccatalog)) for a complete listing of course offerings. Remember that each IDCE program offers flexibility so students can take classes across programs and within other departments at Clark University, including the Graduate School of Geography and the Graduate School of Management.**

**Directed Study and Guided Internships:** Students can take up to a total of two units of directed study or guided internships with a specific faculty member who agrees to guide the independent work (students may petition to take more than two units). So, in addition to the Final Project course requirement, students may opt to have an additional course of directed study or internship as an elective. To provide structure for working on the final project, students completing a professional project typically take one directed study or guided internship course, while students choosing the thesis option typically take two directed study courses.

## ES&P M.A. Checklist

### Environmental Science and Policy (ES&P) Graduate Student Advising Sheet

This form is designed to assist students plan their course of study and also to help advisors keep track of progress towards completing the ES&P Masters degree requirements. Please bring this worksheet with you to meetings with your academic advisor.

<b>Courses</b>	<b>Semester to be completed</b>
<b>Required Courses (5):</b>	
IDCE 363 Professor: Sam Ratick Decision Methods for Environmental Management	_____
IDCE 382 Professor: Halina Brown Management of Environmental Pollutants	_____
IDCE 30205 Professor: Jennie Stephens Climate Change Energy and Development	_____
IDCE 30287 Professor: Tim Downs Fundamentals of Environmental Science	_____
IDCE 30213 Final M.A. Project Advisor_____	_____
<b>Skills Courses (2):</b>	
_____	_____
_____	_____
<b>Electives (5):</b> This includes internships and all other elective courses.	
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

## ES&P Program Faculty

The ES&P core faculty members maintain active and varied research programs. They also provide professional services as consultants, journal editors, board directors, and committee members for a wide range of organizations outside the university. The high degree of outside involvement creates opportunities for student projects, internships, and subsequent employment.

The core faculty do most of the student advising and research supervision.

### ES&P CORE FACULTY

#### **Halina S. Brown, Ph.D.**

Professor

Program Director of the Environmental Science Undergraduate Major

Coordinator of the Undergraduate Program in Environmental Science & Policy

*Research interests: Use of information disclosure as a regulatory instrument for sustainability; socio-technical system innovation in sustainability transition, corporate accountability and governance, social learning and institutional theory, comparative international environmental policy, environmental public health policy, environmental toxicology, management of risks from toxic substances*

#### **Timothy J. Downs, D.Env.**

Assistant Professor

*Research interests: Socio-ecological systems approaches, natural resource management, watershed stewardship, water supply and sanitation, operational sustainability via integrated capacity building, risk analysis, vulnerability and adaptation, impacts assessment, Latin American region and transitional countries*

#### **Robert L. Goble, Ph.D.**

Research Professor

*Research interests: Physics, energy studies, atmospheric transport, risk analysis and management, fisheries*

#### **Barbara Goldoftas, Ph.D.**

Visiting Assistant Professor

*Research interests: Environmental epidemiology, urban environmental health, and social epidemiology*

#### **Samuel J. Ratick, Ph.D.**

Professor

*Research interests: Decision analysis in environmental assessment and management, spatial analysis, quantitative and dynamic modeling, environmental policy, coastal hazards from climate change, pollution prevention in companies, locating hazardous facilities*

#### **Jennie C. Stephens, Ph.D.**

Assistant Professor

Coordinator of the Graduate Program in Environmental Science and Policy

*Research interests: sustainability science, technologies and policies to mitigate climate change, energy technology innovation, CO<sub>2</sub> capture and storage, renewable energy, role of universities as change agent for a social transition toward sustainability*

## **Graduate School of Management Partnership**

Students enrolled in ES&P are now able to pursue a dual degree program based on a partnership with Clark University's Graduate School of Management (GSOM).

Beginning in Fall 2009, IDCE and GSOM are piloting the dual degree program with a select group of highly qualified students who will earn two degrees during three years of graduate study—a Master of Arts degree in Environmental Science & Policy from IDCE and a Master of Business Administration from GSOM.

This unique educational partnership is consistent with Clark's long tradition of cross-programmatic collaborations. The ES&P program is closely interconnected with the three other IDCE Master's programs, and also maintains links with other educational programs at Clark, including the School of Geography; social science and humanities departments, such as sociology, economics and government; the physical and life sciences, such as biology, chemistry, and physics; the George Perkins Marsh Institute and the Mosakowski Institute for Public Enterprise.

The worlds of business and the environment are increasingly intertwined. The environmental problems we are facing in the twenty first century are deeply linked to the very nature of the modern economic system: the goods and services we produce, market, and consume. Transitioning to a more sustainable society requires integrated action of the public, non-profit, and business sectors. Novel approaches to management are needed.

Innovations in technologies and services provided by entrepreneurs and corporations are increasingly central to making a transition to a more sustainable world, and to building the "green collar economy" of the future. Non-governmental organizations, traditionally key partners with governments in pursuing environmental goals, are increasingly collaborating with the business world to address sustainability challenges. These organizations need employees with strong management and strategic planning skills, technical skills (like GIS and data analysis), an entrepreneurial spirit, as well as understanding of the complexities of environmental science and policy.

Students admitted to the dual degree program will be able to integrate the perspectives, knowledge, and skills they gain from ES&P courses, which focus on policy analysis and the use of scientific and quantitative tools, with the business and management perspective, knowledge, and skills learned in GSOM courses.

Future professionals who combine the mastery in these two areas will thrive as building bridges between the private and public sectors is increasingly valued, and as cross-sectoral career paths are increasingly common. Students completing the dual degree program may consider jobs in environmental consulting, entrepreneurial environmental leadership (like renewable energy systems), sustainable technology businesses, nonprofit operations and management, corporate sustainability, and others.

How does it work?

The first year of graduate study in the dual degree program is spent in the IDCE department where students focus on the core requirements of the ES&P degree. During the second year, students concentrate on the coursework toward the M.B.A. degree. In the third year, students take courses in both IDCE and GSOM and complete a final project that integrates both programs of study. Up to four courses taken during the three years can count toward both degrees. Please note that there are likely to be fewer elective course options because students are completing two degrees within a rigorous, tight schedule.

## Academic Standards and Support

### STANDARDS

We expect our students to perform at the highest level. Your grade in ES&P courses will be based on your class participation and performance on tests, written assignments and projects. The class participation component of your grade includes the overall quality of your contributions to discussion, your demonstrated knowledge of assigned reading, frequency of your participation, and creative interpretation of reading material. Class participation also encompasses timely and consistent attendance. Any tests will be scored on both content and accuracy of the answers. Partial credit will be awarded for answers that demonstrate clear and logical thought, but which may not be 100 percent correct.

A good grade for any graduate class is a “B+.” Students meeting the instructor’s standards in class participation and performance will be awarded a “B+.” An “A” grade will be earned only if all standards are exceeded as measured by outstanding scholarship in all areas. A student who actively participates in class discussion but completes written assignments only on par with other students will not earn an “A.” Similarly, a student who submits very well-written reports or conducts projects with skill, but does not demonstrate high competence in oral presentation, will not earn an “A.” Remember, any grade below a “B-” is considered a failing grade.

We also want to enforce that academic integrity is highly valued at IDCE. Please refer to the following link for more details on academic integrity: [www.clarku.edu/offices/aac/integrity.htm](http://www.clarku.edu/offices/aac/integrity.htm). Because of the seriousness of plagiarism, we include the direct text from the above website on this issue:

*Plagiarism refers to the presentation of someone else’s work as one’s own, without proper citation of references and sources, whether or not the work has been previously published. Submitting work obtained from a professional term paper writer or company is plagiarism. Claims of ignorance about the rules of attribution, or of unintentional error are not a defense against a finding of plagiarism.*

There are sanctions for violating academic integrity. We urge you to visit the above website for all of the necessary information.

### ACADEMIC SUPPORT

Clark’s Writing Center is an excellent resource for help with writing. We urge you to make an appointment with the Center to review your work. We may refer you to the Center if we notice that there are areas where your writing could be strengthened.

Information Technology Services at Clark offers workshops on Excel, Access and other software. If you want to improve your skills in those areas, we encourage you to learn more about ITS offerings: [www.clarku.edu/offices/its/training/index.cfm](http://www.clarku.edu/offices/its/training/index.cfm) .

Clark’s Goddard Library has excellent reference librarians who can assist you with your research. There are also a number of online searchable databases where you can find articles and books of interest: [www.clarku.edu/offices/library/rhgdatabases.htm](http://www.clarku.edu/offices/library/rhgdatabases.htm).

## **Research, Internships, and Careers**

### **RESEARCH RESOURCES**

The George Perkins Marsh Institute sponsors research through its Clark Labs for Cartographic Technology and Geographic Systems and the Center for Community-Based Development (CCBD). The CCBD promotes research on community institutions, gender, participation, and conflict resolution.

Visit the IDCE website online for more information about research resources:  
[www.clarku.edu/departments/idce/researchResources.cfm](http://www.clarku.edu/departments/idce/researchResources.cfm).

### **FIELD RESEARCH**

Many students conduct field-based research during their M.A. course of studies, often through funding from external agencies. Student research projects have received external support from the Compton Foundation, U.S. State Department Presidential Management Fellowship, E7 Sustainable Energy Development Scholarship, David L. Boren Graduate Fellowships, Mickey Leland International Fellowships, Greenville Foundation, National Science Foundation, InterAmerican Foundation, the Switzer Foundation, and Catholic Relief Services. Students often draw on their field experience and data to develop their final research project.

The collaborative research projects of IDCE graduate students and faculty reflect their interdisciplinary approach to issues of environment and development. Many projects build upon partnerships between IDCE and community or governmental organizations around the United States and the globe, including in Ethiopia, Kenya, Mali, Somalia, Ghana, India and Senegal.

Locally, environmental and community groups often invite IDCE to undertake key community building projects, as well as data gathering and analysis. This allows IDCE faculty and students to put theory into practice right in the neighborhood. By helping to facilitate participatory sessions and building collaborations, students see Worcester neighbors taking action, setting priorities, and maximizing into their human capital and governmental resources. Students hone their analytical skills through GIS mapping of land parcels for development or preservation and through monitoring water quality.

For more research activities, visit: [www.clarku.edu/departments/idce/researchActivities.cfm](http://www.clarku.edu/departments/idce/researchActivities.cfm).

### **INTERNSHIPS**

ES&P students have gained valuable experiences at many organizations including: Mass. Renewable Energy Trust, World Resources Institute, Winrock International, The Climate Group, U.S. Environmental Protection Agency, Earthwatch, National Grid, Dept. of Environmental Protection, Ecotarium, Mass. Audubon Society, Blackstone River Watershed Association, and field research abroad.

For more information about ES&P internship experiences of past IDCE students, visit:  
[www.clarku.edu/departments/idce/academicsGradESPIIntern.cfm](http://www.clarku.edu/departments/idce/academicsGradESPIIntern.cfm).

To view internship opportunities on the Careers Database, visit:  
[www.clarku.edu/departments/idce/studentsCareers.cfm](http://www.clarku.edu/departments/idce/studentsCareers.cfm).

## **CAREERS**

ES&P trains students to work in managerial, research, and problem-solving jobs in environmental consulting companies, federal and state government agencies, international environment-development organizations and non-profit groups around the world. To read more about IDCE alumni and their individual career paths, visit: [www.clarku.edu/departments/idce/studentsAlumni.cfm](http://www.clarku.edu/departments/idce/studentsAlumni.cfm).

For IDCE students specifically, the department has created an online **Career Database** and our **Career Postings** site with advertisements for jobs, internships, funding and conferences. You may access the pages here: [www.clarku.edu/departments/idce/studentsCareers.cfm](http://www.clarku.edu/departments/idce/studentsCareers.cfm) and login with your Clark credentials.

During the Fall of 2009, IDCE is working on a new Careers Component to the IDCE website. Please inquire about this with the IDCE staff for more information.

## **Options and Guidelines for ES&P Final Project**

The final M.A. project is the culmination of the IDCE Masters experience. All four programs within IDCE offer three different options; each option requires producing a final M.A. paper. The three options are: (1) Final M.A. Research Project, (2) Final M.A. Practitioner Project, and (3) Final M.A. Thesis.

General descriptions of the final M.A. papers associated with each of the three options are provided below. Each program provides students with more detailed program-specific guidelines for each option, including oral presentation requirements and details on the number of required faculty “readers”.

For all IDCE graduate students, one of the 12 credits required for graduation must be a course unit in which the student is devoting their time to their final M.A. project. This credit should be taken under the mentorship of a core IDCE faculty member. It is customary that the faculty mentor for this final project is also the primary advisor on the student’s final M.A. paper. Each program provides detailed information to students on how to choose the faculty advisor(s) for the final M.A. project and how to register for the required credit.

### **Option 1. Final M.A. Research Project**

The final M.A. research paper presents the results of student research on a specific theme, argument, question or problem defined and identified by the student’s interests, drawing from their course work, field work, or professional experiences. The paper may be based on primary or secondary research, and the research methodology should be clearly described. A critical part of the final M.A. research paper is a review of the existing literature, and an appropriate placement of the student research findings in the context of the literature.

### **Option 2. Final M.A. Practitioner Project**

The final M.A. practitioner paper reports critically on an innovative, applied project carried out by the student. The project should contribute to a professional process or organization, and the final M.A. practitioner paper should describe and reflect upon an original contribution that the student has made. Examples include, for IDSC, a capacity-building project, or an attempt to improve monitoring and evaluation of a specific organization. For ES&P examples include conducting an environmental impact assessment or an energy audit, or developing new environmental management software. The student is solely responsible for making contacts and establishing the necessary relationships with organizations associated with the project.

### **Option 3. Final M.A. Thesis**

Graduate students demonstrating high academic achievement and a capacity for completing original independent research may apply for approval to write a thesis as their final M.A. project. To be eligible for pursuing the thesis option, students must develop and submit a thesis proposal to the IDCE Director for approval before the end of the student’s second semester of graduate studies. For the thesis option, students need to find a primary faculty research advisor within their IDCE program to oversee and guide the research. Students may petition to have an advisor from another program within IDCE or from another department. An oral defense is required.

## IDCE Final M.A. Paper Deadlines and Timeline

### For May Commencement

January 31: A complete first draft of the final M.A. paper must be submitted to the primary faculty advisor.

March 24: The final faculty-approved version of the final M.A. paper must be submitted to the IDCE office.

### For December Commencement

September 15: A complete first draft of the final M.A. paper must be submitted to the primary faculty advisor.

October 31: The final faculty-approved version of the final M.A. paper must be submitted to the IDCE office.

These deadlines are department-wide deadlines. Individual programs may impose deadlines that are earlier, but not later.

<b>Timeline for ES&amp;P Final Paper</b>			
<b>Semester</b>	<b>Activities</b>	<b>Key dates</b>	<b>Milestones</b>
Fall Year 1	Begin thinking about possible research topics and/or potential professional projects.	-	Topic ideas
Spring Year 1	Confirm faculty sponsor/advisor for your project, and submit project description or thesis proposal to ES&P graduate Coordinator, Jennie Stephens.	April 30	Confirm faculty advisor
Fall Year 2	Implement project or research		
Spring Year 2	Complete first draft, due to faculty advisor (do not submit without prior peer review).  Required presentation at ES&P Final Project Symposium. Second draft (almost final) due.  Final version must be approved by faculty advisor. Due in IDCE Student Services Office.	By January 31  <b>February 17</b>  February 28  <b>By March 24</b>	1 <sup>st</sup> draft  Presentation  2 <sup>nd</sup> draft  Final version Submission

\* Check deadlines and key dates with the IDCE Student Services Office because the specific date changes slightly each year.

### Course credit and grading

All ES&P Masters students are required to register for one full unit of IDCE 30213, ES&P Masters Final Project to enable completion of their final M.A. project. This course is taken with the student's M.A. final project faculty mentor. Students have the option of registering for 0.5 credits for two semesters or 1.0

credit in one semester. This course is pass/fail, the grade designation for this credit will not be given until the student has completed and submitted their final M.A. project. High quality work is recognized by the faculty with a “High Pass” designation.

### **Special Instructions for Fifth-Year B.A./M.A. Students**

Given the shorter time-frame for students in the B.A./M.A. program, these students are encouraged to either:

- a) Choose a topic that builds on their senior capstone research; or
- b) Register for a Directed Study during spring of their senior year or an internship credit and experience for the summer preceding the fifth year if interested in a **Practitioner Project**.

## **Guidelines for Writing a Research Paper**

*This document has been written collaboratively by the ES&P faculty to provide students with general guidelines for the structure and organization of well-written research papers. These guidelines are relevant and should be helpful for the ES&P final Masters papers (for both the Professional Project Report or Thesis option) and also for research papers written for courses.*

This document provides guidelines and suggestions on the following topics:

1. Importance of Considering a Skeptical Reader
2. General Organization and Table of Contents
3. Guidelines for Specific Sections of Paper
  - 3.1 Title
  - 3.2 Abstract
  - 3.3 Introduction
  - 3.4 Background
  - 3.5 Methods
  - 3.6 Results
  - 3.7 Discussion
  - 3.8 Conclusions/Recommendations
  - 3.9 References
4. Assessment of Research Papers

### **1. Importance of Considering a Skeptical Reader**

When you write a research paper you must keep in mind that your reader may be a skeptic who does not believe your own assurances about the state of the world until he or she has an opportunity to examine the evidence, its significance, and the reasoning that underpins your interpretation of the evidence. You will therefore need to make your arguments and reasoning explicit and, above all, present the necessary data to support them.

### **2. General Organization and Table of Contents**

The most effective research papers are very clear and explicit both in substance and content but also in their organization. One critical part of writing good research papers involves clearly and continuously communicating with your reader what you are doing, i.e. guiding your reader through your paper so the reader understands each section and how it relates to the overall purpose of the paper and research. While a table of contents may not seem necessary for all research papers, a table of contents is a valuable and easy tool to provide your reader with an initial quick outline of the content of your paper. To demonstrate the value of including a table of contents, the beginning of this document includes a table of contents that outlines the different sections of this document. Providing your reader with such an outline enhances your readers' perception and understanding of the organization of the paper.

Another organizational component of a research paper that can enhance your own and your reader's clarity of the structure of the paper is providing numbered and titled headings and subheadings delineating sections and subsections. Providing these numbered headings and subheadings can greatly improve the overall organization of a paper.

To demonstrate the value of these numbered headings and subheadings, this document has included such headings and subheadings. Also, below is a demonstrative example of a table of contents for an ES&P research paper using numbered headings and subheadings:

1. Introduction
2. Background
  - 2.1 History of Use of Lead in Paint
  - 2.2 Scientific and Technical Details of Adding Lead to Paint
  - 2.3 Health Impacts Associated with Lead in Paint
3. Methods
4. Results
5. Discussion
6. Conclusion
7. References

### **3. Guidelines for Specific Sections of Research Paper**

Most research papers should include each of the following sections.

#### **3.1 The Title**

Your title should be clear, specific and descriptive. For example, “Prospects for Eliminating Environmental Exposure to Lead in the Twenty-First Century” is preferable to a vague title like “Environmental fate of lead.” Whatever it is that you are investigating/examining should be reflected in the title of the work.

#### **3.2 The Abstract**

The abstract is the most important part of any long research paper (including a masters paper or thesis) because readers will read this first to determine whether or not they want to read any other parts of the paper. Because of the importance of an abstract, every sentence and word choice should be carefully considered. The abstract should succinctly and clearly explain the importance of the research, the research approach, and the conclusions of the research. A good abstract that accurately reflects the contents of the research paper cannot be finalized until the entire paper is written and the conclusions of the work are well developed. So while it is worth attempting to write an abstract in early drafts of your paper, it should be recognized that the abstract will likely have to be modified and adjusted throughout the process and the final version of the abstract may be one of the final steps in finalizing your paper.

#### **3.3 Introduction – Framing your Research Question**

The introduction to a research paper articulates the purpose of the research and sets the stage; the introduction prepares the reader for how the paper will proceed. The introduction is a funnel into which you enter a broad topic – with a range of subtopics – and from which emerges a clear, concise, and focused research question. The opening paragraph should describe the broad problem area you are dealing with and why it is particularly interesting, relevant, and important. This should be followed by a short description of many different aspects of that problem (subtopics). In the introduction you should present a spectrum of the subtopics previously identified within the general problem area which lend themselves to further research in depth. Highlight two or three of these subtopics that lead into the direction of your own research topic. Each subtopic deserves approximately a paragraph, more or less. Within the introduction when these broad topic and subtopics are being presented, broad and important references should be included.

An alternative approach to an introduction which is sometimes effective is to begin with a short example or story of the subject you intend to explore – then to proceed to open up the subject (as described above) followed by narrowing (as described below)– and then perhaps promise to revisit the opening example.

After the broad topic and subtopics have been presented, you have arrived at the place where you want to introduce your specific topic. The previous introductory paragraphs should lead your reader down a path that points directly to your specific research question. With sentences starting like: “One of the unresolved issues...” or “Contrary to the popular opinion, the evidence for XYZ does not show...” or, “The dilemma of XYZ derives from a poor understanding of...” and so on. You can frame the research question addressed in your paper. The research question may be introduced like this: “This paper/project investigates/examines/explores/reviews the evidence for....etc.”

Congratulations! You have framed your research question. This process was not easy. Progressive narrowing down to one (or two) research question(s) requires a lot of thought and often requires later adjustments and changes as you learn more about the subject through your research. It is not uncommon that the final version of the “Introduction” be completed after all the other parts of the paper are finished. The goal is always clarity and specificity.

The final part of the introduction is a short description of the method you used to conduct your research, the sources you used, and you should state simply the overall findings and conclusions of your work. You want to end your introduction by telling your reader about the structure of your paper so that the reader is prepared to read your paper and follow your well-planned layout of the paper. For example, the final sentence of the introduction could read, “This paper will first provide background on the topic, then describe in detail the method used and the results obtained, and then conclude with a discussion about the implications of the research results.”

If you have written the “Introduction” well your reader will know:

- What you are studying
- Why you are studying it
- Why they should be interested in this topic
- How the topic of your research is related to some broader questions or policy dilemmas or field of investigation
- What approach you take to this work
- What you have discovered through your research.
- How your paper is organized

### **3.4 Background**

This section is the place for expanding the material covered in the introduction by reviewing the literature or other pertinent background information, such as, for example, history of a particular problem, the technical or scientific details associated with the problem, attempts (or their absence) to solve the problem or to redefine it, and so on. Most of your references should be cited in this section.

The purpose of this section is to strengthen the argument you made in the “Introduction” that this is an important and worthwhile topic to study, and that your research question is really well-placed and sharp. This section should also set the stage for your choice of research methods by highlighting the research methods used by others. (You may, for example, make a case that others studied the same exact question, but did so by using different methods and therefore your approach has merit).

The title of this section can be very non-committal, such as “Background,” or be more colorful, reflecting the topic of your research. Examples include: “History of .....” , “Anatomy of Intractable Public Controversy,” or “Why litigation does not solve Brownfield problems...” or so on. Use your imagination. You might end this section by reiterating the research question, or at least summarizing how or why previous research provides a context for understanding your work.

### **3.5 Methods**

This section applies to both research papers and critical review papers – you need to explain to the reader what you did and where you got your information. You need to describe your research approach – what steps you took to answer your research question, what data and information you acquired and how you interpreted and analyzed those data. This section should be descriptive and objective – you can mention problems or difficulties you encountered with your methods in this section, but later in the discussion section you will be able to evaluate your methods, raise questions about the efficacy of these methods, and discuss problems and difficulties at more length.

### **3.6 Results (in some cases coupling results and discussion into one section is appropriate)**

This part of the paper describes the results of the actual research. This section coupled with the discussion section is the main body of your paper and should contain two elements: data and analysis of the data. By data we mean the factual information derived from the sources you have used to conduct your research. For most papers it will probably work best to have two separate sections “results” and then “discussion.” In the results section you simply describe the information/data. Here you would present results of various experiments, surveys, computer simulations, field investigation, cost-benefit analysis, case study descriptions, and quote historical facts and predictive models. All throughout this process you should therefore limit your data presentation to that which is pertinent to your particular topic. Avoid getting distracted by some sideline data-set that will not illuminate the main question you are trying to answer.

### **3.7 Discussion**

Whereas presenting data is essential to your paper, it is not sufficient. You need to interpret your data. This may be the most difficult part of the paper if you are not used to independent analytical thinking. However, if you phrased your original question with clarity and accumulated sufficient data, half of your work should be done already. In this section you will ask questions such as: Does a policy/approach/technology work? Why does it/does it not work? What are the prospects of this policy/technology? What are the trends? And attempt to answer them. By now you should be using references very sparingly. Rather, you should be relying on the data that you have gathered and presented. The proper use of references is when you compare your results with those produced by other investigators of the similar topics. If their results differ from yours, you need to attempt to explain the observed differences, even if your explanation is no more than a hypothesis.

At this stage you need to remind yourself about the skeptical audience: you must convince them that your interpretation of the data is correct by allowing them to see the data and to follow your thought process. This is a good place to interpret your findings vis-à-vis prevailing theories and views on the matter under study, and to comment on whether your findings are consistent with these theories, contradict them, or expand them with new and interesting evidence. This characteristic – the analysis of data – is what distinguishes a research paper from a survey of literature or a review paper. In a review paper you would acquire new information and relate it to your reader. In a research paper you must critically evaluate that information in order to pose a specific question, and then collect more data to answer that question.

Presentation of data and critical analysis can be done in one of two ways: as two sections following each other (first data, then analysis) or as one section where each piece of data are a set of facts and figures are critically evaluated, then followed by another set of data and another analysis, and so on. It is your choice.

An important thing to avoid in this section at any cost is any normative statements relative to what *should be done*, given the results of your work. Papers relevant to policy and management present a great temptation to make this error here. You nevertheless must avoid all the “should’s” and “ought’s.” These belong in the Conclusions and/or Recommendation sections.

### **3.8 Conclusions (and/or Recommendations)**

Finally, you are ready to write the conclusions and, if you want, recommendations. The conclusions should flow directly from your analysis and be specifically directed to the central research question(s) or thesis. Avoid any conclusions that are not substantiated by your research and analysis. Also, avoid sweeping generalities such as “lead is dangerous and should be removed from the environment,” or “something must be done to protect children from this environmental hazard.” Be specific. Relate your conclusions to the original research question. You can think about your conclusions as your “findings.” What did your research find? You should consider this the main product or output of your work – even though you may want also to tell people how to behave; part of presenting a normative discussion can be a set of recommendations, but even without specific recommendations, you may want to present an “interpretation” of your findings that has a normative aspect.

In this section you may also indicate what the uncertainties are. In general, this is the most subjective part of the paper which allows you to express what you have learned through your research work and what you think about the subject matter. Depending on the topic, it may also be appropriate to treat uncertainties in some detail in a discussion section, and then summarize the issues of uncertainty in the conclusions.

Another often very interesting component of the conclusion section is the inclusion of suggestions for further work. It is possible and often desirable that based on your work you will identify follow up research – the things that you would do next if you had more time or energy. If you have detailed suggestions on this, a sort of beginning research plan, for instance, you can add a paragraph or two (or even a separate section if detailed enough) on future work.

Recommendations (which may go under a separate section heading) should be brief. They may focus on policy or further research, or other actions the society or its specific members could and should take to contribute to solving the broader problem area you identified earlier in the “Introduction.”

### **3.9 References**

Your paper should be properly referenced. Each statement which refers to a new piece of information should be referenced. There are several standard ways of including references in your work, and as long as you are consistent you can choose the way that you prefer. In general, the ES&P faculty prefer in-text citations that use the *author, year* approach. At the end of any sentence that refers to research done, statements made, or information provided by someone other than you, there should be, in parenthesis, the author’s last name (or the authoring organization’s name) followed by the year of that reference. For example “Previous research suggests that voluntary environmental programs are ineffective in promoting the advancement of new technology (Smith, 2001). The full reference corresponding to each in-text citation will then be listed alphabetically by authors name in the “References” section at the end of the document.

A note about including “quotes” in research papers. Direct quotes should be used very rarely. The papers should be written in your own words. A quote is *only* appropriate if a statement is unique and if it adds to your argument when stated in exactly the same words as in the original source. For example, in discussing public rejection of GMC’s you may want to quote a following statement from a citizen’s group “We feel that a new form of feudalism has been introduced by large companies through creating an economic dependency on GMC’s.” This statement reflects the intensity of the drama and the value issues involved in the controversy. Therefore it is appropriate to include it (although please note that it is just as effective to state, in your own words, that such-and-such organization views GMC’s as a new form of feudalism). On the other hand, it is inappropriate to use quotes when stating factual matter, such as scientific findings. For example, there is nothing unique about a statement “CFC’s present a serious threat to the ozone layer,” so you do not need to put

quotation marks around it in your paper even if these exact words are used in one of your sources. In this case, you only need to cite the source.

#### **4. Assessment of Research Papers**

There are four major criteria on which research papers are judged:

- (1) the extent to which you draw information from a variety of sources and integrate it with coherency,
- (2) the extent to which you incorporate concrete evidence into your paper in support of general statements and arguments. This includes not only quantitative facts and figures but also qualitative examples, anecdotes, or your observations,
- (3) the structure of the argument. Here, what matters is that your argument evolves logically and progressively, and
- (4) the quality of the writing and presentation, including the clarity of expression, references, citations in the text, captions for figures and tables, spelling, punctuation, and so on.

## Guidelines for Writing a Thesis

### **ES&P-Specific Details on Thesis Option**

The thesis option should only be considered for students who are prepared for advanced, independent, academic research. Proposals for approval for the thesis option in ES&P will be evaluated based on two basic criteria:

- (1) the student's demonstrated capacity for completing original independent research, and
- (2) the potential of the proposed project to make an original contribution to the relevant field of scholarship and practice.

Applications for approval to write a thesis must be submitted to both the ES&P graduate coordinator and the IDCE director in the student's second semester of the ES&P M.A. program, by April 30<sup>th</sup>. The short proposal (about two to three pages in length) should include:

- (1) a research question or a hypothesis, with a brief justification of why this is significant to pursue in the context of the field in which the student proposes to conduct the research,
- (2) a description of the research plan and the methodology to be used,
- (3) a description of the literature to be critically reviewed as part of the thesis, including a brief justification for the choice of the literature, and
- (4) a proposed schedule for completing the thesis project, including demonstrating the feasibility of completing the thesis according to the proposed schedule.

The ES&P graduate coordinator and the IDCE Director will communicate with the student's faculty thesis advisor before making a decision.

## IDCE Internship Requirements for Graduate Students

IDCE faculty can assist students in identifying internship opportunities; however, students are encouraged to identify their own internships. Internships can be done for credit, as negotiated with faculty, and depending on the opportunity, interns may also earn a stipend paid by the host agency. You must complete all steps of the Internship Requirements in order to receive credit.

### **Step 1: Search for an Internship**

Search the Internet, job listings, the Careers Database on the IDCE website, IDCE ALL email messages, and the IDCE internship files in the IDCE Student and Academic Affairs Office for possible NGOs or local institutions that have paid or unpaid summer or semester internships. Talk to faculty who may know of openings. Ask second-year IDCE grad students and alums where they found internships. Inquire with a personal call, letter, or formal email to request updated information from an organization of your choice about current internships available and/or an application for internships. For a summer internship, begin your search by October or November.

### **Step 2: Apply for the Internship**

Once you find an internship that interests you, apply well before the deadline. Competition will be stiff for choice internships.

### **Step 3: Complete an Internship Report**

Once you have secured the internship, begin to fill out the **Internship Report**. This is a short paper that answers some general questions about the place of your internship. This report should be returned to the Student and Academic Affairs Office by the time your internship is complete.

If you wish to receive academic credit for your internship, continue on with Step 4.

### **Step 4: Get Internship Approval**

Once you secure an internship, fill out an **Internship Proposal** form. Complete the form and meet with your faculty sponsor to describe your internship, its relevance to your studies, and the appropriate academic component that you wish to pursue. Once your faculty sponsor approves your internship and signs the application form, return two signed copies of the completed **Internship Proposal** form to the Student and Academic Affairs Office to be added to your student file.

### **Step 5: Register Your Internship for Credit**

An internship must be a minimum of 210 hours to qualify for academic credit. You will need to secure a faculty sponsor to oversee your internship and complete an academic component in order for it to count towards one credit. You can register for academic credit for a summer internship in the fall semester following the internship **ONLY** if you have completed an **Internship Proposal** form and received approval from your faculty sponsor in the previous spring semester.

### **Academic Component**

**Before starting your internship, discuss the internship with your faculty sponsor, so that he/she can determine the academic component that best fits your internship. Your faculty sponsor must sign off on your academic component in order for you to receive credit. The options include:**

**1. Research Paper:** A 15- to 20-page paper describing a research topic that you explored during the internship.

**2. Research Materials:** Produced as part of your internship, this is research that you carried out for the organization, such as a handbook, manual, report, or study.

**Step 6: Complete the Internship**

Before the final week of your internship, have your internship supervisor complete the **Internship Supervisor Evaluation** form and send it to the Student and Academic Affairs Office. Remember to fill out the **Internship Report**, too, and return it to the Student and Academic Affairs Office by the time your internship is complete.

**Step 7: Complete the Academic Component**

If you wish to receive credit, submit the academic component of your internship to your faculty sponsor within four weeks of completing the internship. This is the Research Paper or Research Materials. Talk to your faculty sponsor for guidelines and expectations regarding your academic component.

## IDCE Internship Proposal

An internship must be a minimum of 210 hours to qualify for academic credit. Not more than 25% of your job duties should be clerical by nature.

Complete this form after you have secured an internship. Once your faculty sponsor signs below, return two copies to the Student and Academic Affairs Office to be added to your student file.

Please note: Before the final week of your internship, have your internship supervisor complete the **Internship Supervisor Evaluation** form and send it to the Student and Academic Affairs Office. If you wish to receive credit, submit the academic component of your internship to your faculty sponsor within four weeks of completing the internship.

**Internship Proposal:** \_\_\_\_\_

**Student Name:** \_\_\_\_\_

**Address during internship:** \_\_\_\_\_

\_\_\_\_\_

**Campus address:** \_\_\_\_\_

**Telephone:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

### Sponsoring Organization

**Name of Organization:** \_\_\_\_\_

**Address:** \_\_\_\_\_

\_\_\_\_\_

**Telephone:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**Website:** \_\_\_\_\_

**Description of the Organization:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Internship Supervisor:** \_\_\_\_\_

**Title and Department:** \_\_\_\_\_

\_\_\_\_\_

**Internship Title and Responsibilities:**

\_\_\_\_\_

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**Goals or End Product (reports, publications, etc.) of the Internship**

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**Proposed Weekly Schedule** (if possible, attach a work timetable that you have agreed upon with your internship supervisor.)

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**Hours per week:** \_\_\_\_\_ **Total # of weeks:** \_\_\_\_\_

(Please note that international students must have any paid internship approved by the Director of International Students and Scholars.)

**Faculty Sponsor:** \_\_\_\_\_

**Department:** \_\_\_\_\_

**Faculty Signature for Approved Internship:** \_\_\_\_\_

## IDCE Internship Report

Please answer the following questions and submit your report to the IDCE Student and Academic Affairs Office not more than four weeks after the internship is completed (by October 15 for summer internships). For GISDE students who will graduate in December under the internship option, this exact date should be coordinated with your advisor and the final M.A. project's deadline.

**Internship Proposal:** \_\_\_\_\_

**Student Name:** \_\_\_\_\_

### **I. Description of the sponsoring organization**

- What is the organization's mission?
- What are its main areas of work and expertise, and where does it carry out its mission (in the U.S., other countries)?
- What is the organizational structure (e.g., staff composition, gender, cultures, etc.)?
- What are the organization's strengths? What areas need attention?
- How effectively does it accomplish its mission?

### **II. Description of the Internship Responsibilities**

- Describe your responsibilities in the internship.
- How was your internship connected to the organization's mission?

### **III. Assessment of Your Internship**

- What did you learn during this internship?
- How well did the internship relate to your course of studies and/or overall career goals?
- Would you recommend this internship for other IDCE students? Please explain.

## Internship Supervisor Evaluation

**Student Name:** \_\_\_\_\_

**Internship:** \_\_\_\_\_

A letter from the internship supervisor describing internship responsibilities and performance is required for IDCE graduate students to receive academic graduate credit. Please request that your supervisor send this completed form to:

Clark University  
Department of International Development, Community, and Environment - Internships  
950 Main Street  
Worcester, MA 01610-1477

**Name of Supervisor:** \_\_\_\_\_

**Name of Organization:** \_\_\_\_\_

**Address:** \_\_\_\_\_

\_\_\_\_\_

**Telephone:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**Website:** \_\_\_\_\_

- 1) How well did the Clark IDCE intern perform the responsibilities of the internship and live up to your expectations?
  
  
  
  
  
  
  
  
  
  
- 2) How well did the intern assimilate into the organization environment and culture?
  
  
  
  
  
  
  
  
  
  
- 3) Was the intern receptive to feedback?
  
  
  
  
  
  
  
  
  
  
- 4) Were there any areas in which a need for improvement was evident? Any particular problems? If so, please explain.

5) Was the intern's academic preparation adequate for the internship?

6) Would you be willing to sponsor another IDCE intern? If so, would you sponsor an intern for the summer? For a semester? Paid or unpaid?

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## IDCE Intent to Graduate Form

Name: \_\_\_\_\_ Program: \_\_\_\_\_

Final Paper/Project Title:

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ Please check here if you have received permission from the Director of IDCE to write a thesis.

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Academic Advisor: \_\_\_\_\_

First Reader: \_\_\_\_\_

Second Reader (if applicable): \_\_\_\_\_

Date of Review Session (if applicable): \_\_\_\_\_

When do you intend to graduate? \_\_\_\_\_

**NOTE: All completed final M.A. projects, signed by your advisor and first reader, are due in the IDCE Student and Academic Affairs Office (Dilma Lucena's office), Room 24, in advance of the Clark University Graduate School deadline.**

For the Academic Year 2009-2010, the Student and Academic Affairs deadlines for submitting your final project are as follows:

August 26, 2009 – for October 2 Graduation (Intent to Graduate form due on July 31)

November 2, 2009 – for December 14 Graduation (Intent to Graduate form due on October 3)

March 22, 2010 – for May 23 Graduation (Intent to Graduate form due on February 22)

*Please note that IDCE no longer offers a February graduation.*

**By this time, the IDCE Student and Academic Affairs Office must have received verification from your advisor that you have or will satisfactorily complete all course work required for graduation.**

For the Academic Year 2010-2011, please check with your faculty advisor or Student and Academic Affairs.

Please complete and return this form to the IDCE Student and Academic Affairs Office, Rm 24.

If you have any questions please contact Dilma Lucena by email at [dlucena@clarku.edu](mailto:dlucena@clarku.edu).

# IDCE GRADUATE STUDENT GUIDE

## Choosing Your Course of Study

**Balance Your Schedule:** Challenge yourself, but don't overload and take too many classes. Three classes a semester, plus laboratory work and readings, will usually fill your schedule. Most students complete the degree requirements in 2 years as a full-time student. Students in the GISDE program can complete the program in three semesters, although most prefer the two-year schedule. Exceptionally qualified students may complete the GISDE program in a 12-month intensive track. You will need to talk with your advisor about these options.

**Take Your Time:** Choosing courses may seem difficult at first, but many people are here to help you. Your advisor and other IDCE faculty are valuable resources. Second-year IDCE students are another source of informal advice for courses. It is important to get as much information as possible and don't rely solely on one person's opinion.

**Evaluate Interesting Courses:** Here are some suggestions for evaluating classes:

- Get a syllabus or class outline and/or go to the University Bookstore online or in person to see what books are required for the class. Is the reading interesting? Does it challenge you?
- Talk to faculty and other graduate students. Think about how you want to structure your IDCE courses, independent study, and research and how their integration will help you gain the skills you desire. Use your program's course of study or your advisor to guide your decisions and planning.

**Meet with Your Advisor:** To make an appointment, contact your advisor to schedule a meeting via phone, email, or in person during office hours. IDCE faculty are all accessible, but it is important to make a scheduled appointment in advance to ensure that you have adequate time for discussion.

## Registration

You have been given instructions from the ITS Department to create your Clark email account. Call ITS if you have questions. Students should check their Clark email accounts regularly for information from the Registrar's Office regarding the online registration process. **Please note:** *only* your Clark email address will be used for all University and IDCE communications.

To be able to register, you are required to have health insurance and be cleared by Health Services regarding mandatory immunizations. You will also need to have paid your deposit and have obtained the signature of your advisor for your course selection. During the Clark Graduate School Orientation, the Registrar's Office will assist new students with registering online. Continuing students have their courses approved by their advisors and then are cleared for pre-registration during the preceding semester.

Students are advised to read the Clark Refund Policy before registering for classes. You can find the information here: [www.clarku.edu/offices/business/studentaccounts/refund.cfm](http://www.clarku.edu/offices/business/studentaccounts/refund.cfm).

**Full-time/Part-time Status:** Full-time students must take at least three course units per semester. If you register for fewer than three course units, you will be considered part-time. Check with your Student Accounts representative about whether your student loans can be deferred if you are a part-time student. Part-time students lose their Student Health Insurance coverage. International students should check with the Office of Intercultural Affairs before changing status.

**Transfer Credits:** Under some circumstances, up to two graduate course units (8 credits) may be transferred from another institution into a Clark University Graduate Program to count toward the 12-course-unit requirement for graduation. Transfer credits into an IDCE graduate program must be approved by the Program Coordinator and the Director of IDCE and must be relevant to your particular course of specialization. Please note that transfers of credit requests are seldom approved due to the uniqueness of IDCE courses and each program. The transfers should be approved before students begin their M.A. course of study at IDCE or soon thereafter. Retrospective transfers are unusual. A student may petition the Program Coordinator and the Director of IDCE to request such a transfer and IDCE will assess the possibility of such transfers.

**Non-resident Student Status:** If you have completed all course work but are finishing your final M.A. project, you should register online as a “Non-Resident Graduate Student.” A completed Graduate Dean’s Action Form must be approved by the IDCE Director before you are moved to non-resident student status. In addition, you must pay a non-resident student fee to maintain registered student status each semester until your requirements are completed. If you withdraw and then apply later to be reinstated to complete your requirements and receive your degree, you will be charged non-resident fees for each semester you were not enrolled.

**Graduation:** IDCE graduates students in October, December, and May. The Commencement ceremony happens once a year (in May) and that is the only chance that students have to “walk” with their fellow graduates. Students that graduate during the other months will be allowed to walk in May of the subsequent year. Discuss your graduation plans with your advisor.

If you wish to receive your degree in May, submit the finished, formatted and signed copy of your final M.A. project, as well as the **Intent to Graduate** form, to the IDCE Student and Academic Affairs Office on or before the set deadline. Students will be notified of the deadline through email. (Note: It is the student’s responsibility to check the exact date with the IDCE student and academic affairs coordinator each year; deadlines are usually one month prior to the graduation month). There are no exceptions to this deadline.

If you are not graduating in May, submit the **Intent to Graduate** form before the start of classes in August (to avoid being charged non-resident student fees).

## **Writing and Research**

**Final M.A. Project:** IDCE program handbooks contain specific information on the requirements, format, and deadlines for each program’s final research requirement. Typically students choose between three options: research paper, practitioner paper, and thesis. Because an M.A. from IDCE requires a final M.A. project, specific guidelines and timetables for working with your faculty reader must be followed if you wish to receive your degree on time. **IDCE reserves the right to make modifications to guidelines and procedures at any time.**

**The Writing Center:** You can improve your written work by making appointments to meet with a graduate writing consultant at the Writing Center in Corner House, 142 Woodland Street. In a session, a consultant can help you generate ideas, organize your paper, or make revisions to an existing draft. Bring a copy of your writing assignment and whatever writing you have towards that assignment (even if it is a rough draft).

The Center’s library includes materials on writing in various disciplines and information about citation styles. Appointments are available Monday to Thursday from 9 a.m. to 8 p.m. On Fridays, the Writing Center has appointments available from 9 a.m. to 5 p.m. You may schedule, cancel, or change an

appointment online [www.rich17.com/clarku](http://www.rich17.com/clarku). You may also call the Writing Center at (508) 793-7405 (on campus x7405) to schedule an appointment.

The Center also has links to helpful writing resources at:  
[www.clarku.edu/departments/writingatclark/center.cfm](http://www.clarku.edu/departments/writingatclark/center.cfm).

Please remember the Writing Center is very busy at midterm and finals.

**Standards of Academic Integrity:** You must be exceedingly careful to avoid plagiarism, which carries serious penalties in U.S. academic institutions. Remember that you must indicate the source of your information whenever you:

- summarize what another has written or said,
- restate another source's words or ideas, or
- use a direct quotation of the exact words written or spoken by another.

You may want to stop by the Writing Center to get a better idea about how to cite sources and complete a thesis statement prior to beginning your final M.A. project.

### **Extracurricular Opportunities**

**IDCE Student Association:** The IDCE Student Association is run by and for IDCE students. It provides an informal social and intellectual forum for IDCE students, faculty, and staff to exchange ideas. Its purpose is to enrich the graduate student experience and to express student views. During meetings and retreats, IDCE students may discuss questions, concerns, and observations about the curriculum. In this way, the Student Association acts as a sounding board, providing an opportunity to voice opinions about IDCE programs and to propose changes to the department. The association also provides support and guidance during your time at Clark. Many IDCE graduate students have extensive field experience and theoretical knowledge to share with each other and with undergraduates. The Student Association hosts IDCE-sponsored events throughout the academic year. All IDCE students are automatically members of the IDCE Student Association.

**IDCEALL Email List:** IDCE provides its graduate students with information regarding social events, lectures, conferences, funding opportunities, internships, and job opportunities. This information is delivered via your Clark email account, so it is important that you check your Clark email very regularly. (IDCEALL email is monitored, so inappropriate messages and "spam" will never be distributed. Remembering to delete old and sent messages will help ensure that your email account will always be able to receive new mail.)

IDCE provides an effective avenue to share invaluable professional resources and information among IDCE community members online at [www.clarku.edu/departments/idce/studentsCareers.cfm](http://www.clarku.edu/departments/idce/studentsCareers.cfm). You are encouraged to email any job, internship, or event to IDCE staff for distribution to your fellow students.

Don't forget to also check out the guide *Things to do in the Woo*, a sourcebook created by former IDCE students. You can find it here: [www.clarku.edu/departments/idce/docs/Things\\_Worcester.pdf](http://www.clarku.edu/departments/idce/docs/Things_Worcester.pdf).

**Teaching and Research Assistantships:** There are usually a limited number of Teaching Assistant and Research Assistant positions available within the IDCE Department. Other paid positions may be available to graduate students as needs arise within the IDCE department or within other departments on campus. These will be posted through IDCEALL. These positions are filled on the basis of merit, experience, and fit to the required responsibilities.

## Campus Resources

**Academic Commons at Goddard Library:** Named for the Clark physicist who invented the rocket technology that made space travel possible, Goddard Library has recently been transformed into The Academic Commons at Goddard Library. The project reshaped the University's main library into a cutting-edge facility for research, teaching and learning by centralizing academic and research support services for students and faculty. The Academic Commons provides traditional and electronic resources, including Goddard's collection of more than 375,000 volumes, 275,000 monographs, subscriptions to 1,500 periodicals, full Internet access, nearly 50 subject specific data bases and a public on-line catalog available 24-hours a day. The Academic Commons houses an Archives and Special Collection area.

Check out the Goddard Library web page at [www.clarku.edu/research/goddard](http://www.clarku.edu/research/goddard) for details. You can find additional help at the Library's Reference Desk. The reference librarians will help you to access the Goddard Library collection, as well as the extended resources of the Worcester Consortium and the Internet.

**GISDE Resource Labs:** The GISDE Computer Lab contains high performance microcomputers, a high-resolution color scanner, laser and color ink jet printers, GPS receivers and Ethernet connections. Available software includes IDRISI, CartaLinx, ArcGIS, and many others pertinent to GIS, statistics, database management, and graphics production. Also available to GISDE students are computer facilities in the Lab at 10 Hawthorne Street and the JK Wright Lab in the School of Geography.

**The Jeanne X. Kasperson Library:** The Jeanne X. Kasperson Research Library is dedicated to higher learning and to supporting those who seek to expand their knowledge. The primary mission of the Library is to support Clark University's extensive environmental research programs. This includes but is not limited to programs conducted under the aegis of the George Perkins Marsh Research Institute, the School of Geography, and the Department of International Development, Community, and Environment. The Library is committed to serving the educational functions of the University and the broader community in order to further research related to sustainability and global environmental change, international development, and risk and hazards to society and the environment.

The Kasperson Research Library offers one of the most extensive research collections in North America on risks and hazards and global environmental change. In addition, the library collection includes holdings in technology, water and energy policy, and sustainability.

The Kasperson Research Library collects publications on relevant subjects from international, national and subnational institutions and is also one of the few libraries that systematically collects reports from national and international programs such as the International Geosphere-Biosphere Programme, Diversitas, the Millennium Ecosystems Assessment, and the Human Dimensions of Global Environmental Change Programme. The library staff tracks international and regional treaties and protocols, national and subnational legislation and the initiatives of multinational corporations and trade associations. The library also maintains informal exchange agreements with 25 institutions worldwide.

**The George Perkins Marsh Institute:** The Marsh Institute at Clark University is dedicated to research on one of the most fundamental questions confronting humankind: What is and ought to be our relationship with nature? Named after the noted environmentalist George Perkins Marsh and built on a tradition of basic and applied research on environmental hazards and international development, the Institute fosters team-based research that engages graduate students and research faculty in problem formulation and resolution. It is home to some 63 research faculty, staff, and graduate students, with appointments ranging from the humanities to the social and natural sciences.

The Marsh Institute is organized as a consortium of research centers or units and the Jeanne X. Kasperson Research Library. Studies focus on human-environment relationships across a wide array of themes including: risks and hazards; the human dimensions of global environmental change; resource and environmental policy; industrialization and globalization; homeland security; and the development and application of geographic information science across multiple disciplines.

The Institute does not grant degrees, but advanced degrees can be sought through the affiliated programs and departments of Clark University. Support comes from the University, private donations, grants from foundations, and grants and contracts from state and federal agencies.

**Language Arts Resource Center (LARC):** Located on the fourth floor of Goddard Library, this is a multimedia language instruction center. Multiple sources for learning include an extensive library of computer programs, audio and video tapes, and interactive translation facilities. The LARC area also houses a satellite-connected television, which provides worldwide news.

**Information Technology Services (ITS):** ITS provides general purpose computing facilities, software, network connectivity, and network resources for the University. Information about ITS services is available at [www.clarku.edu/ITS](http://www.clarku.edu/ITS). If you need computing assistance, the Help Desk is available to answer your questions by calling 793-7704, or by email at [sos@clarku.edu](mailto:sos@clarku.edu).

## Career Services

Clark University's Career Services can be found at 122 Woodland St., 2<sup>nd</sup> & 3<sup>rd</sup> floors. The office provides services and programs to assist students in making informed decisions regarding their long- and short-term career goals. Staff offer effective career planning resources, including assistance with internship and job search strategies, effective resume and cover letter writing, informational and job interviewing, and networking skills. The following services and resources are available:

*Career Advising* – Students may schedule individual appointments with a Career Advisor to clarify their goals, preferences, skills, and interests.

*Career Resources* – The Career Services Library contains information on career fields, internship and job search techniques, employer directories, and literature. In addition to print resources, Career Services subscribes to a number of online resources that may be useful to IDCE students. Workshops and internship/job fairs are offered throughout the academic year.

*Alumni Networking* – Career Services advisors have access to the Clark Alumni Online Community database, which can assist students in identifying alumni who may provide useful career and networking information.

For IDCE students specifically, the department has created an online **Career Database** and our **Career Postings** site with advertisements for jobs, internships, funding and conferences. You may access the pages here: [www.clarku.edu/departments/idce/studentsCareers.cfm](http://www.clarku.edu/departments/idce/studentsCareers.cfm) and login with your Clark credentials.

During the Fall of 2009, IDCE is working on a new Careers Component to the IDCE website. Please inquire about this with the IDCE staff for more information.

## Recreation and Culture

**On Campus:** The Visual and Performing Arts Department often sponsors plays in Little Center Theater, concerts in the Traina Center, music in Estabrook Hall, and art exhibitions in the Art Gallery on the ground floor of the Goddard Library. Cinema 320 offers a reasonably priced film series in Room 320 of

Jefferson Academic Center. Check the Cinema 320 website at [www.cinema320.com](http://www.cinema320.com) and for event listings; also remember to check Clark activity calendars at [www.socialweb.net/clark](http://www.socialweb.net/clark).

**Intramurals:** Many IDCE students enjoy playing intramural co-ed volleyball or soccer. Visit [www.clarku.edu/athletics/intwellness](http://www.clarku.edu/athletics/intwellness) to learn more.

**In Worcester:** From Wednesday through Sunday, there are concerts, film series, special art exhibitions, and lectures to enjoy at the **Worcester Art Museum** on Salisbury Street. Admission is free with your Clark ID. The museum is accessible from the Consortium shuttle bus stop at WPI on Salisbury Street. During the year there are concerts ranging from rock to opera at **Mechanics Hall** and the **DCU Center**. The **EcoTarium** features exhibits on ecology and native wildlife, while **Higgins Armory** presents one of the largest collections of medieval armor in the country.

## Transportation

Getting around Worcester without a car can be a challenge, so it is helpful to use public transportation or to arrange carpool trips or shared taxis with friends to visit the supermarket, etc.

**The Consortium Shuttle:** The Colleges of Worcester Consortium Shuttle helps you get to other campuses in the Worcester area and to a few other local spots. You can pick up the shuttle outside of Atwood Hall on Downing Street. It leaves every hour on the 26th minute, with the first shuttle leaving at 7:26 a.m. and the last at 6:26 p.m. You can find more information, including a detailed schedule, at [www.cowc.org/college-student-resources/shuttle](http://www.cowc.org/college-student-resources/shuttle).

**Student Council Van:** This provides regular transportation to Walgreens, Union Station, Highland Street, and the Shoppes at Blackstone Valley. The van runs between 3 p.m. and 12 a.m. Fridays, and 1 p.m. and 1 a.m. Saturdays.

**Student Escort Service:** The Student Escort Service provides all members of the Clark community with escort service from 5 p.m. to 4 a.m. during the academic year, within a quarter of a mile from campus. Call 508-793-7777 (x7777 from an on-campus phone) for a ride.

**Taxi:** Local taxi companies include Yellow Cab at 508-754-3211 and Red Cab at 508-792-9999.

**Car Rental:** Most of the major rental agencies such as Hertz, Budget, Avis, Thrifty, and Enterprise have offices in Worcester. If choosing Enterprise, members of the Clark community can ask for the Clark University rate.

**City Buses:** Worcester Regional Transit Authority (WRTA): You can pick up a city bus outside of the University Center, on Main and Grand streets, or at Main and Beaver streets. For more information and a complete schedule, visit [www.therta.com](http://www.therta.com).

**Intercity Buses and Trains:** Worcester's beautifully renovated Union Station houses intercity train and bus services.

Buses. Serviced by Greyhound Lines, Inc. and Peter Pan Bus Lines. For fares and schedule information about Greyhound, call 1-800-231-2222, or visit [www.greyhound.com](http://www.greyhound.com). For more information about Peter Pan, which only services the northeastern seaboard, call 1-800-343-9999, or visit [www.peterpanbus.com](http://www.peterpanbus.com).

Trains. You can get to and from more than 500 cities nationwide. Commuter trains to Boston stop at several stations along Boston's subway system (known locally as "The T"). You can get to Union Station

by bus if you transfer to the 1, 5, 12 or 15 at City Hall. Schedule information is available from [www.amtrak.com](http://www.amtrak.com) or the MBTA Commuter Rail information at [www.mbta.com](http://www.mbta.com).

**International Airports:** There are three international airports serving the Worcester area, all approximately an hour away depending on weather and traffic conditions:

Boston, MA: Logan International Airport  
Providence, RI: T.F. Green Airport  
Hartford, CT: Bradley International Airport

Getting to the Airport: You can arrange a limousine van ride from Worcester to either T. F. Green or Logan by calling Worcester Airport Limousine Service at 800-660-0992 or visiting them on the web at [www.wlimo.com](http://www.wlimo.com). Be sure to make your reservations early.

Alternative ways to get to Logan Airport, Boston: In addition to Worcester Airport Limousine Service, Logan is accessible from Worcester by bus and commuter rail. If you're in Boston already, you can use the subway or "T".

### **Student Health Services and Insurance**

Health Services is located at 501 Park Avenue and is open Monday through Friday, 9 a.m. to 5 p.m. There are no services during the summer or school vacations. As a primary care setting, Clark University Health Services provides acute illness care, gynecological and contraceptive services, allergy desensitization, as well as health counseling and education. The professional Health Services staff includes nurse practitioners, registered nurses and part-time physicians. Students are also referred to a number of excellent specialists from an extensive referral network.

By law, Clark cannot release information about your health or health records without your authorization—even to your parents. Please be sure to give Health Services your permission each time before your parents call us.

Whenever you have a health-related problem, an appointment with the Health Services staff will help you identify the problem and give you the information needed for you to make the best choice for treatment. Clark Health Services also provides information for international students as well as information about insurance and health forms and medication requirements.

The Clark University Health Service is a primary care outpatient clinic offering a variety of services and programs including:

- Diagnosis and treatment of acute and sub-acute episodic illnesses and injuries
- Ongoing and follow-up care of pre-existing chronic conditions such as diabetes, asthma, colitis, etc.
- Diagnostic laboratory testing
- Contraceptive counseling and gynecological services
- Sexually transmitted disease (STD) health education
- Immunization to prevent diseases
- Desensitization (allergy injections)
- Sports medicine
- Stress reduction
- Eating disorders and nutrition counseling
- Smoking cessation

Clinical Services are provided by nurses, nurse practitioners, physicians and support staff. Physicians affiliated with the major teaching hospitals in the Worcester area are present in the Health Service every day.

### **Other Health Services**

Worcester is home to two community health centers. Each is a comprehensive, multicultural, community health center with medical, dental, and mental health services, available to families and individuals of all ages regardless of the ability to pay. Health Centers pay special attention to chronic disease management, including diabetes, HIV and AIDS, and cardiovascular diseases. Services can be arranged in the following languages: Spanish, Portuguese, Vietnamese, Albanian, and others by appointment. Family Health Center of Worcester, Inc. is within a mile walking distance. For services visit: [www.fhcw.org](http://www.fhcw.org). Great Brook Valley Health Center is located at 19 Tacoma Street, Worcester.

Further, the University of Massachusetts Medical School and UMass Memorial Health Care, located in Worcester, are world class institutions that provide medical education and care. The University of Massachusetts Medical School and UMass Memorial Health Care share a common campus and a common goal: to serve the people of the region through excellence in education, patient care, biomedical research and public service.

### **Obtaining a Social Security Number**

Changes made to Social Security regulations during the past year now require international students studying in the U.S. on F-1 and J-1 visas to present evidence that they have secured a job in order to be eligible for a social security number. All necessary information regarding a Social Security Number application will be presented during the **International Graduate Student Orientation**.

Please note that newly admitted students who are eligible for a SSN will not be able to obtain all the necessary documents and submit their SSN application until the second week of their first semester (due to immigration regulations as well as processing time within the Social Security Administration and the University).

### **Receiving Mail at IDCE**

All IDCE students have a mail folder in the Student Lounge area file cabinet inside the IDCE House. This file is primarily for internal use. Faculty and students will often communicate through the mail folders and campus mail will be delivered to your file. Both campus and off-campus mail is usually delivered to the IDCE House from the Clark University Mailroom twice a day. Students living off-campus should have all mail delivered to their home address.

**Students Living in On-Campus Housing:** The only option for students living in on-campus housing is to have their mail delivered to IDCE. All personal mail of students living on campus will be placed in these files. It is the student's responsibility to check the file frequently. Please keep in mind that the file cabinet is not locked. Your address is as follows:

NAME

Clark University - IDCE Department

950 Main Street

Worcester, MA 01610

**Packages:** As with regular mail, all packages for students living on-campus will be delivered to the IDCE House. Anyone else expecting a package to be delivered to IDCE should inform a staff member.

**Clark University Checks:** All Clark University payroll checks and reimbursement checks for IDCE students are delivered to IDCE from Clark University Accounting and Payroll Offices. They are delivered on alternating Fridays. Checks can be picked up in the IDCE Student and Academic Affairs Office on that same Friday or the following Monday. Please pick up your statement even if you have an automatic deposit set-up. Make sure that your address is correct and updated with Glenn Godfrey in the Payroll Office on Downing St.

**Summer Mail:** Mail is not forwarded in the summer. It will accumulate in your mail folder. If you are in the area, please check your folder periodically.

**After Graduation:** All students who graduate are asked to remove their folder from the file. This will remind us that you are no longer in the area. Mail is forwarded for three months after graduation. After that it is “Returned to the Sender.” **IMPORTANT!!!** Please notify any agency, friend, family member, magazine subscription, or other mail contact of your new address once you leave IDCE.

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Remember that the IDCE website is a great communication tool while you are completing your studies. You can find information on faculty, alumni, research activities, as well as download our program’s handbook, check out events, and much more: [www.clarku.edu/idce](http://www.clarku.edu/idce).

### **Administration and Staff**

Director of IDCE	Assistant Director of IDCE
William F. Fisher, Ph.D.	Dave Bell, Ph.D.

Program Coordinators  
IDSC: Anita Häusermann Fábos, Ph.D.  
ES&P: Jennie Stephens, Ph.D.  
CDP: Laurie Ross, Ph.D.  
GISDE: Yelena Ogneva-Himmelberger, Ph.D.

To contact other IDCE faculty, please see their office hours on their office doors or visit their webpage for contact information.

Admissions Coordinator	Admissions Assistant
Paula Hall	Lisa O’Neill

Student and Academic Affairs Coordinator  
Dilma Lucena

Assistant to the Director/Office Manager  
Jacqueline Murphy

Marketing and Publications Manager  
Jillian Johnstone