

**GRADUATE PROGRAM IN
GEOGRAPHIC INFORMATION SCIENCE
FOR DEVELOPMENT AND ENVIRONMENT (GISDE)**

STUDENT HANDBOOK

2009-2011

www.clarku.edu/departments/idce/academicsGradGISDE.cfm

Overview

The Master of Arts program in Geographic Information Science for Development and Environment (GISDE) teaches students to become professionals in careers where they apply the world's most advanced computer mapping and spatial analysis technologies to address crucial issues concerning socioeconomic development and environmental science and policy.

A program in collaboration with IDCE and Clark University's School of Geography, the GISDE program is unique in a variety of ways. It focuses specifically on applications of geospatial technologies to problems of sustainable development and the environment, such as:

- Public health and environmental justice
- Global change and earth system monitoring
- Land use change
- Food Security and humanitarian assistance

Clark Labs for Cartographic Technology and Geographic Systems (www.clarklabs.org) produces the GIS software, Idrisi, which is used in over 180 countries worldwide. It is the only academic institution in the world with a successful 20+ year history of GIS and remote sensing software development. Therefore, GISDE students have a unique opportunity to learn the analytical power of raster GIS using Idrisi in their course work and research. GISDE students may have an opportunity to work at Clark Labs as software testers, programmers or researchers, depending on each student's qualifications and the needs of Clark Labs.

Numerous opportunities exist for students to conduct collaborative research with IDCE faculty as they pursue their research on issues such as public health, water resources, land use change, environmental degradation, and environmental justice. Many GISDE students have co-published findings of their research with faculty members in respected journals in the field.

Dear incoming GISDE 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.

If you have suggestions on ways to make this handbook more useful, please let a member of the GISDE faculty know.

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GISDE Course of Study

Prerequisite: Proficiency in general computer skills, including file management in MS Windows XP, word processing (e.g., MS Word) and spreadsheet skills (e.g., MS Excel).

The Master's degree in Geographic Information Science for Development and Environment requires 12 graduate course units. These consist of five required core courses and seven electives. At least one elective must be a skills course and at least one elective must be a policy course. The seven elective courses allow students flexibility to take courses that will best help them meet their objectives and strengthen areas that they would like to focus on. 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 academic advisor. The final requirement for a GISDE degree is the successful completion of a final M.A. project. This design allows full-time students to complete the program in either three or four semesters.

Required Core Courses (5)

The GISDE 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 GISDE graduate students with a common academic foundation in GIS Science.

In order to enroll in Advanced Raster GIS or Advanced Vector GIS, students must: 1) pass a proficiency exam that typically occurs at the end of the pre-semester GIS training in August, or 2) must pass Introduction to GIS course for graduate students in the first semester.

IDCE 388 Advanced Vector GIS

This course builds upon the concepts of GIS introduced in Introduction to GIS, and focuses on the more advanced analytical vector GIS tools. Topics include exploratory spatial data analysis, spatial statistics, interpolation techniques, 3D data presentation and analysis, network analysis and multi-criteria decision making. Concepts in lectures are illustrated using the ArcGIS software. Final project is required.

IDCE396 Advanced Raster GIS

This course builds on Introduction to GIS by delving deeper into raster GIS. Topics include time-series analysis, uncertainty assessment, multi-objective decision making, land-change modeling, and spatial statistics. Concepts in lectures are illustrated using the Idrisi software. Final project is required.

IDCE 371 Introduction to Remote Sensing

Introduces basic concepts and analytical methods of satellite remote sensing as applied to environmental systems (e.g. land-cover classification, vegetation monitoring, etc) Emphasizes processing and analysis of digital satellite images, especially Landsat, SPOT, and AVHRR data, for classification of land cover, land-cove/land-use change analysis, and other geographic topics.

IDCE 391 GISDE Professional Seminar

This course requires students to complete research proposals or internship applications in the spring semester.

IDCE30213 Master's Final Research Requirement

This course involves collaboration with internship or research advisor to complete a final M.A. project. The grade designation for this credit will not be given until the student has completed and submitted their final M.A. project.

GISDE Elective Courses (7 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 Environmental Science and Policy) or in other departments, as approved by their academic advisor.

Skill Electives (a sampling *)

- IDCE 30220 Advanced Remote Sensing
- IDCE 30212 Introduction to Quantitative Methods
- IDCE 30261 Computer Programming for GIS
- IDCE 30262 Internet and Open Source GIS
- IDCE393 Seminar in Social Applications of GIS
- IDCE 394 Seminar in Environmental Applications of GIS
- IDCE392 GIS and Land Change Science
- IDCE 324 Intermediate Quantitative Methods
- IDCE 349 Advanced Topics in Spatial Analysis
- IDCE 314 Research Design and Methods

Policy Electives (a sampling *)

- IDCE 367 Quantitative Environmental Modeling
- IDCE 363 Decision Methods for Environmental Management
- IDCE 381 Critical Cartographies: Mapping Culture, History, and Power
- IDCE 382 Management of Environmental Pollutants
- IDCE 343 Seminar in Human Dimensions of Global Change
- IDCE 30226 Biogeochemical Cycles and Global Change
- IDCE 30214 Environmental Toxicology
- IDCE 30202 Land Use Seminar
- IDCE 30214 Landscape Ecology
- IDCE 30205 Climate Change, Energy and Development
- IDCE 30218 Community-Development Decision Making and Negotiation
- IDCE 30217 Economic Fundamentals for International Development
- IDCE 30231 Humanitarian Assistanes in Complex Emergencies
- IDCE 30277 Sustainable Consumption and Production

Directed Study and Internships: Students can take up to a total of two units of directed study or internship with a specific faculty member who agrees to guide the independent work. So, in addition to the Master's Final Research Requirement, students may opt to have an additional course of directed study or internship as an elective.

*** Please view Clark's official Academic Catalog 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.**

GISDE Program Faculty

YELENA OGNEVA-HIMMELBERGER, Ph.D.

GISDE Program Coordinator, Assistant Professor of IDCE

Research interests: Health applications of GIS and remote sensing; environmental justice and GIS; spatial statistics; urban applications of remote sensing; land-use change and environmental degradation

ROBERT GILMORE PONTIUS JR., Ph.D.

Associate Professor of Geography

Research interests: Geographic information science, quantitative environmental modeling, land change science, spatial statistics

HENRY N. N. BULLEY, Ph.D.

Visiting Assistant Professor, IDCE and Geography

Research interests: Geographic information science, water resource applications of GIS and remote sensing; sustainable development and Sub-Saharan Africa, landscape ecology, land-use change, spatial statistics, web-based GIS, classification tree modeling

RONALD EASTMAN, Ph.D. (not scheduled to teach courses)

Professor of Geography

Research interests: GIS, remote sensing, cartography

JOHN ROGAN, Ph.D.

Associate Professor of Geography

Research interests: GIS, landscape ecology, land cover change monitoring, fire

Choosing and Working with Your Advisors

You will have two advisors in the GISDE program—your faculty advisor and your final M.A. project advisor. You already have been assigned a faculty advisor. Your faculty advisor is one of the core faculty in GISDE and will help you chart a course for your time in the program. You will meet with your faculty advisor to help you choose courses and help you select an appropriate final M.A. project advisor, also known as your first reader.

Your choice of the final M.A. project advisor will be based on the degree to which your interests match with the faculty. While you will not have to officially ask a faculty member to be your first reader until the middle of your 2nd semester, you should get to know different faculty members so that you can make a good choice when the time comes.

In order for a faculty member to know if there is a match between your interests, you will be expected to prepare a final M.A. project proposal, as part of IDCE 391 during your 2nd semester. The format for the proposal will be provided by the instructor of IDCE 391. You should feel free to consult with faculty as you develop your proposal.

Once you have secured your final M.A. project advisor and he/she has approved of your proposal, you will submit a copy of it — signed by your final M.A. project advisor — to the GISDE program coordinator by the end of the 2nd semester. If your topic and/or advisor changes, you will submit a new, signed overview to the GISDE program coordinator.

Academic Integrity

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. Because of the seriousness of plagiarism, we include the direct text from the above website on this issue:

Several ways in which academic integrity may be violated are outlined below.

Cheating has three principal forms:

- Unauthorized use of notes, text, or other aids during an examination or in performance of course assignments.
- Copying the work of another.
- Handing in the same paper for more than one course unless the faculty members involved give their explicit permission to do so.

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.

Unauthorized collaboration refers to work that students submit as their own but which was arrived at through a process of collaboration without the approval of the professor. Since standards on appropriate or inappropriate collaboration may vary widely among individual faculty, students should make certain they understand a professor's expectations before collaborating on any class work.

Alteration or fabrication of data includes the submission or changing of data obtained by someone else or not actually obtained in the performance of an experiment or study, except where allowed by the professor. It also includes the changing of data obtained in the performance of one's research.

Participating in or facilitating dishonest activities includes, but is not limited to:

- Stealing examinations
- Forging grade reports or grade change forms, or altering academic records
- Sabotaging the work of another student
- Selling, lending, or otherwise distributing materials for the purpose of cheating
- Forging or altering Graduation Clearance forms
- Forging letters of recommendation
- Forging signatures on any official university documents

There are serious 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 online workshops on Excel, Access and other Microsoft software. If you want to improve your skills in those areas, we encourage you to learn more about ITS offerings: 140.232.1.60/MELL/ENG/viewer/asp/collections.asp (you must log in with your Clark credentials to access this link).

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.

Research Centers

The Graduate School of Geography (www.clarku.edu/departments/geography/) is the oldest doctoral-granting geography department in the U.S. It consistently ranks among the top 10 graduate programs in the nation. Departmental research interests in GIS, nature/society relations, global environmental change, natural resource management, environmental hazards, risk analysis, and international development provide a strong stimulus for research projects in the GISDE program.

Clark Labs for Cartographic Technology and Geographic Systems (www.clarklabs.org/) is a world leader in the creation of GIS and image processing software. Since its introduction in 1987, Idrisi has grown to have more than 40,000 registered users worldwide. Many graduate students participate in research conducted at Clark Labs.

Center for Community-Based Development (www.clarku.edu/departments/marsh/centers/ccbd.cfm) sponsors research activities on gender, participation, and urban neighborhood planning.

The Guy Burnham Map Library (www.clarku.edu/research/maplibrary/) is a federal depository for cartographic information. Its collection includes 230,000 map sheets, aerial photos, CD-ROM databases, archived satellite imagery, and related texts.

The Jeanne X. Kasperson Library (www.clarku.edu/research/kaspersonlibrary/) in the Marsh Institute has one of the most extensive research collections in North America on environmental risk and hazards, and human dimensions of global environmental change. There are also monographs, technical reports, and journals on international development, technology, water, and energy policy.

GIS Resources

The GISDE Laboratory offers access to:

- High performance microcomputers
- High resolution color scanner
- Laser and color ink jet printers
- GPS receivers
- Ethernet connections for Internet access

The GISDE Lab supports the entire MS Office software package as well as the following GIS and other software:

- Idrisi Taiga
- ArcGIS Desktop
- Erdas Imagine
- SPSS

GISDE students have access to the GISDE lab for four semesters. At the end of the fourth semester each student must delete his/her data from the GISDE computer he/she was using, clean his/her desk, and return the GISDE lab key to the IDCE Assistant to the Director.

All IDCE students also have access and use privileges to the computer lab on the first floor of the IDCE House.

The GISDE Final M.A. Project

Each GISDE student must complete a final M.A. project for which the student earns credit in IDCE 30213. There are three options for the final M.A. project. All three final project options require an oral presentation and a written paper.

Option 1. Final M.A. Research Project

For this option, the student develops a research proposal as part of IDCE 391 during the second semester. This proposal must be signed for approval by the selected research advisor (also known as the first reader). The research is then performed under the guidance of the research advisor in the context of IDCE 30213 in the student's final semester. This final research project results in a paper that has a length and format appropriate for a professional peer-reviewed journal article. The format for the paper will be provided to students as part of IDCE 391. The paper should be presented at a conference or a professional meeting during the third or fourth semester. This option is appropriate for students who want to engage in the creation of new methods in GIS or innovative applications of existing GIS methods. This option is recommended for students who want to eventually pursue a Ph.D.

Option 2. Final M.A. Practitioner Project

For this option, the student applies to GIS-focused internships as part of IDCE 391 during the second semester. During that semester, the student must complete an **Internship Proposal** form and obtain approval from a GISDE faculty member who will serve as student's internship advisor. The student will perform the internship during the summer and/or fall semesters. The student produces a paper that gives an overview of current GIS applications in the relevant field, describes how GIS was used in the internship, and how GIS could be used more effectively. The paper is completed in IDCE 30213 in the fall semester under the guidance of the internship advisor. The format for the paper will be provided to students as part of IDCE 391. This final project results in a public oral presentation in the following spring semester to the IDCE 391 class. This option is recommended for students who view this Master's degree as a terminal degree and plan to spend a career in applied GIS.

Option 3. Final M.A. Thesis

Graduate students of extraordinary academic achievement may choose to write a thesis with permission of the GISDE program coordinator and IDCE Director. This permission must be obtained by early April of the second semester of the M.A. program. For this option, the student develops a research proposal as part of IDCE 391 during the second semester. This proposal must be signed for approval by the selected research advisor and the second reader. At least one of the readers must be a member of the core GISDE faculty. The research is then performed under the guidance of the research advisor and the second reader in the context of IDCE 30213 in the student's final semester. Writing a thesis follows a similar procedure to the Final M.A. Research Project, but is based on original research, a deeper review, and analysis of the chosen topic. Typically, a thesis is about 100 pages long.

All M.A. final projects (research and practitioner projects and theses) should:

- Contain a correctly and consistently formatted bibliography of relevant sources.
- Reflect professional or graduate-level standards in terms of writing quality, style and content of the final project.
- Avoid plagiarism.

Timeline for the GISDE Final M.A. Project	
Semester	Activities
Fall Year 1	Begin thinking about possible research topics and/or potential internships.
Spring Year 1	<p><u>Internship track</u> Confirm faculty advisor for the internship. Submit your signed proposal to the GISDE Program Coordinator. Submit your Internship Proposal form to the Student and Academic Affairs Office.</p> <p><u>Research track</u> Confirm faculty advisor. Submit your signed proposal to the GISDE Program Coordinator.</p>
Summer Year 1	Start working on your research project or complete your internship.
Fall Year 2	<p><u>Both tracks</u> Register for IDCE 30213 with your faculty advisor. Complete first draft of your final M.A. project, which is due to your faculty advisor before the end of the semester.</p>
Spring Year 2	<p><u>Internship track</u> Present your internship paper to IDCE 391 class before March 1. Final version of your internship paper must be completed and approved by faculty advisor by March 1.</p> <p><u>Research track</u> Oral presentation of your research project. Final version of your research paper must be completed and approved by faculty advisor by March 1.</p> <p><u>Both tracks</u> Final versions of the final M.A. project is due mid-March in the IDCE Student and Academic Affairs Office.</p> <p>IT IS THE RESPONSIBILITY OF THE STUDENT TO MONITOR EMAILS FROM THE STUDENT AND ACADEMIC AFFAIRS OFFICE ABOUT DATES AND DEADLINES FOR FORMS AND PAPER SUBMISSION AS DATES CHANGE SLIGHTLY FROM YEAR TO YEAR!</p>

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:

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

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

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.

IDCE 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.

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.

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.

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. 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.

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. 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.

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 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. Kasperon 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. 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.

Career Services

Clark University's Career Services can be found at 122 Woodland St., 2nd & 3rd 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 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 and for event listings; also remember to check Clark activity calendars at www.socialweb.net/clark.

Intramurals: Many IDCE students enjoy playing intramural co-ed volleyball or soccer. Visit 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.

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.

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. For more information about Peter Pan, which only services the northeastern seaboard, call 1-800-343-9999, or visit 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 or the MBTA Commuter Rail information at 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. 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
- HIV and AIDS education
- 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. 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.

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.

Administration and Staff

Director of IDCE

William F. Fisher, Ph.D.

Assistant Director of IDCE

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

Paula Hall

Admissions Assistant

Lisa O'Neill

Student and Academic Affairs Coordinator

Dilma Lucena

Assistant to the Director/Office Manager

Jacqueline Murphy

Marketing and Publications Manager

Jillian Johnstone