

DEPARTMENT OF GEOGRAPHY

# GRADUATE STUDENT HANDBOOK

2009-2010

Compiled by

Graduate Studies Committee  
Department of Geography

University of Utah

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## PERSONNEL

### REGULAR FACULTY (<http://www.geog.utah.edu>)

ANDREA R. BRUNELLE, Ph.D., Oregon, 2002, Associate Professor and Director of RED Lab--paleoecology, fire history, climate change

THOMAS J. COVA, Ph.D., California-Santa Barbara, 1999, Associate Professor and Director of GIS Certificate Program--GIS, hazards, urban modeling, and transportation

PHILIP E. DENNISON, Ph.D., California-Santa Barbara, 2003, Associate Professor and Director of Graduate Studies--hyperspectral, multispectral, and multitemporal remote sensing of vegetation, wildfire and fire danger modeling

RICHARD R. FORSTER, Ph.D., Cornell, 1997, Associate Professor--microwave remote sensing, application of radar interferometry to studies of glaciers and ice caps, remote sensing of snow packs and hydrology

GEORGE F. HEPNER, Ph.D., Arizona State, 1979, Professor--land resource analysis, Geographic information analysis, computer mapping applications, hyperspectral remote sensing

THOMAS M. KONTULY, Ph.D., Pennsylvania, 1978, Professor--urban Geography, population Geography, migration analysis, urban and regional development, quantitative methods

HARVEY J. MILLER, Ph.D., Ohio State, 1991, Professor and Chair--GIS, transportation, telecommunication, location theory, time Geography and activity theory, spatial analysis and geocomputation

KATHLEEN NICOLL, Ph.D., Arizona, 1998, Assistant Professor--geomorphology, stratigraphy, geoarchaeology, arid lands

THOMAS H. PAINTER, Ph.D., California-Santa Barbara, 2002, Assistant Professor and director of SOL--cryospheric (snow and ice) science, snowmelt hydrology and climate change

MITCHELL POWER, Ph.D., University of Oregon, 2006 Assistant Professor and Curator of the Utah Museum of Natural History Garrett Herbarium--historical biogeography, fire, paleoecology and paleoclimatology

YEHUA DENNIS WEI, Ph.D., UCLA, 1998, Professor--economic geography and location theory, regional and urban development, spatial analysis, China

IKUHO YAMADA, Ph.D., SUNY-Buffalo, 2004 Assistant Professor--GIS, spatial statistics, health, transportation

### AUXILIARY FACULTY

ROBERT T. ARGENBRIGHT, Assistant Professor (Lecturer) (Ph.D. California-Berkeley, 1990)--historical geography, Russia

GENEVIEVE ATWOOD, Adjunct Assistant Professor (Ph.D. University of Utah, 2006)--geography of Utah, urban environmental geography

LARRY L. COATS, Adjunct Assistant Professor (M.S. Northern Arizona University, 1997)--quaternary sciences

ELIZABETH DUDLEY-MURPHY, Adjunct Associate Professor (Ph.D. University of Utah, 1996)--world regional/cultural Geography

ARTHUR HAMPSON, Ph.D., Hawaii, 1980, Professor-Lecturer--Historical Geography, regional Geography, global issues

PHOEBE B. MCNEALLY, Research Assistant Professor and DIGIT Lab Director (Ph.D. University of Utah, 2008)--GIS,

PAM PERLICH, Adjunct Assistant Professor (Ph.D. University of Utah, 1992)--applied regional economic and demographic studies, economic and demographic modeling, UPED Model

VINCENT V. SALOMONSON, Research Professor (Ph.D., Colorado State, 1968)--spaceborne remote sensing of Earth-atmosphere processes and trends with emphasis on hydrological processes, regional and global snow cover dynamics

DAVID WILKINS, Adjunct Assistant Professor (Ph.D. University of Utah, 1997)--geomorphology

BING XU, Research Assistant Professor (Ph.D. California-Berkeley, 2003)--remote sensing and GIS, epidemiology, spatial analysis, spatio-temporal modeling

### DIGITALLY INTEGRATED GEOGRAPHIC INFORMATION TECHNOLOGIES STAFF

PHOEBE B. MCNEALLY, (Ph.D. University of Utah, 2008) Director

ADAM NAISBITT, (M.S. University of Utah, 2008) GIS Technician

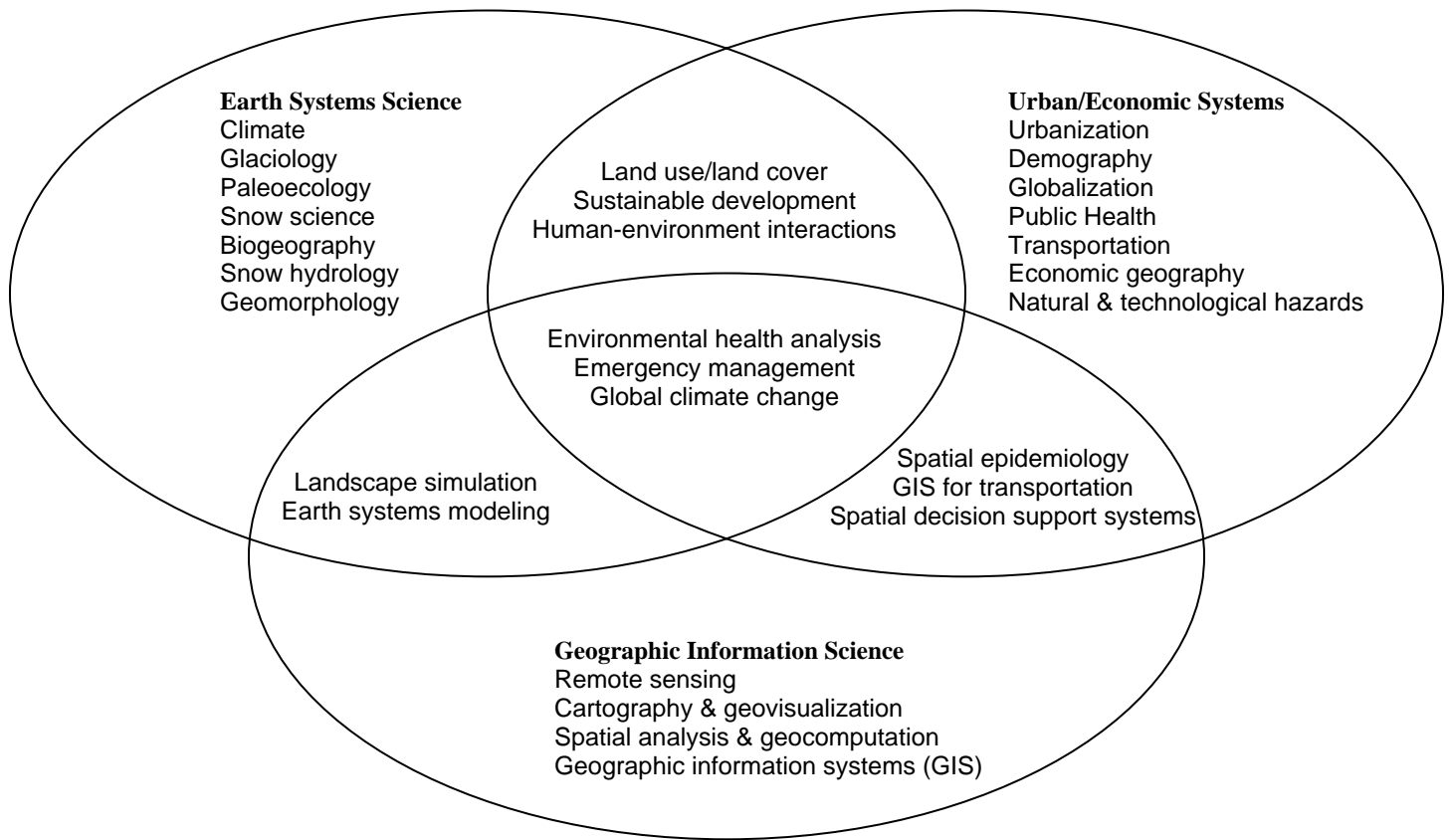
SAM STEHLE, GIS Technician/Undergraduate Research Assistant

MELISSA WARNER, Administrative Assistant/Webmaster

# Departmental Strategic Plan

## Department of Geography, University of Utah

Departmental strategic planning places a premium on teaching and research excellence in selected fields - specifically, in the three interacting geographic foundation fields with bold headings below, and in geographic application subfields in the four resulting intersections.



Welcome to the graduate program of the Department of Geography! The Graduate Studies Committee has prepared this handbook as a source document to guide your progress. The procedures outlined in this handbook are those officially approved by the Geography faculty and should be considered authoritative. Please familiarize yourself with its contents. It is the student's responsibility to maintain their program in accordance with departmental policies. All questions regarding departmental graduate policies should be directed to Dr. Philip Dennison, Director of Graduate Studies.

The University of Utah and the Department of Geography provides reasonable accommodation to students with documented disabilities. Please contact the Graduate Director or the Department chair if such accommodations need to be made.

## **GRADUATE STUDIES IN GEOGRAPHY - UNIVERSITY OF UTAH**

The Department offers advanced level of study in a variety of systematic, regional, and technical fields. **Prospective graduate students are urged to assess the congruence of their interests with departmental specializations.** Accordance of student's interests with those of prospective faculty advisers is a **condition for acceptance into the program.** Graduate program specializations at the Master's and Doctoral levels include the following Geographic fields: 1) *Earth System Science*, 2) *Urban Economic Systems* and 3) *Geographic Information Science*. For detailed information refer to the Departmental strategic plan ([http://www.geog.utah.edu/et-cetera/strat\\_plan.html](http://www.geog.utah.edu/et-cetera/strat_plan.html)) on page 3.

**SPECIAL FACILITIES:** The Department of Geography occupies the south wing of Orson Spencer Hall, located near the Marriott Library in the center of campus. In addition to over 2 million volumes, the library houses a large map and atlas collection, and a large Western Americana collection.

**DIGIT Lab:** Established in 1987, the Digitally Integrated Geographic Information Technologies Laboratory, or DIGIT Lab (<http://www.digit.utah.edu/>), is an auxiliary facility of the Department of Geography. The DIGIT Lab operates within the University of Utah's research infrastructure and provides support for both theoretical and applied Geographic information analysis and application development. The goal of the DIGIT Lab is to offer students real world experience, and at the same time, deliver the highest quality of geographic information services. The Department of Geography utilizes the DIGIT Lab's computing facilities to provide state-of-the-art instructional support for courses in the science and application of GIS, remote sensing, and spatial analysis. The DIGIT Lab also supports faculty research in the Department of Geography as well as other departments at the University of Utah. A somewhat unique aspect of the DIGIT Lab is that it is largely a self-funded facility that provides public services on a contract basis to local, state, and federal government agencies, as well as some private sector entities. Some areas of specialization include: spatial database design and development, custom GIS applications, enterprise database computing, spatial statistics and analysis, remote sensing and image processing, spatio-temporal process modeling, GPS data collection, cartography, and spatial data visualization. Contract services provide opportunities for students to work in a professional environment, apply their knowledge and skills to real problems, as well as gain valuable work-related experience.

The DIGIT Lab operates a production lab dedicated to supporting contracted projects and faculty research. The lab operates current versions of ESRI® ArcGIS, ArcSDE, ArcGIS Server, ArcIMS, ArcPad, ENVI®, SQLSever®, Trimble Pathfinder Office and TerraSync. In addition, the lab has 5 high-grade mapping Trimble GeoXT GPS units, a large-format HP color plotter, and a HP color laser printer.

**Center for Natural and Technological Hazards:** The Department of Geography oversees the Center for Natural and Technological Hazards (CNTH) on campus (<http://hazards.utah.edu/>). The function of the Center is to promote and support research and teaching in prominent hazards along the Wasatch Front and in the Intermountain Region. Avalanches, earthquakes, floods, landslides, and wildfire, along with technological and terrorist threats represent a significant risk to the population and property of this rapidly urbanizing region.

The Department offers several courses on hazard analysis and emergency management, with a strong field investigation component. Numerous allied courses are available in urban planning, geology and geophysics, meteorology, and civil and environmental engineering. CNTH works closely with the Utah Division of Homeland Security (UDHS), and many students have found part-time and full-time employment through the program.

**Utah Remote Sensing Applications (URSA) Lab:** URSA engages in cutting-edge, applied remote sensing research. URSA-affiliated faculty members Dennison, Forster, Hepner, and Painter possess decades of experience with applications of multispectral, hyperspectral, radar, interferometric, and lidar remote sensing. URSA research addresses a wide variety of remote sensing applications, including snow, glaciers, hydrology, wildfires, vegetation, and climate change.

## THE DONALD R. CURREY PALEOENVIRONMENTAL RESEARCH GROUP

**Records of Environment and Disturbance (RED) Lab:** The RED Lab was established in 2003 with a new state-of-the-art facility designed to analyze sediments for evidence of the impacts of climate change over thousands of years. As climate regimes change, vegetation communities shift and reorganize to adjust to the new conditions. Disturbance regimes such as fire and insect infestation are also affected by climate change. Pollen, charcoal, and plant and insect macrofossils can be recovered from lake and other sediment sources to reconstruct how vegetation has responded through time, which provides information on how it may change in the future due to global warming. The RED Lab includes a fume hood for processing fossil pollen samples, a wet lab for processing charcoal and macrofossil samples, and facilities to measure magnetic susceptibility and the organic and carbonate percentages in sediments. The RED Lab has microscopes for the analysis of both charcoal and pollen and computer resources to analyze the data.

**Snow Optics Laboratory (SOL):** The Snow Optics Lab was established in 2007 to integrate field, modeling, and remotely sensed analysis of the past, present and future state of mountain snow cover. Snow is arguably the most important natural resource in the western US through its contributions to and influences on climate, fresh water, agriculture, hydroelectric generation, recreation, and ecosystem health. With changes in climate and land use, mountain snow cover is vulnerable to significant change in terms of spatial and temporal effects of desert dust and soot on snow energy balance and melt, regional analysis of mountain snow cover distribution, algorithm development for mapping snow cover properties, and inference of Arctic sea ice albedo. The SOL is a state of the art facility with a walk-in freezer for experiments and microtomography of snow microstructure and optical properties, a hyperspectral reflectance of snow and other surfaces, and optical spectrometers for the analysis of dust and soot optical properties. The SOL involves frequent field measurements in the Wasatch Mountains, San Juan Mountains of Colorado, and other ranges of the US and abroad. The SOL is now applying its tools for spectroscopy of snow and ice to data collected by solar system missions visiting Europa and Enceladus in support of the mission to seek life off of Earth.

**Global Palaeofire Working Group (GPWG):** Members of the Global Palaeofire Working Group Lab (GPWG) manage the global charcoal database (GCDv1), an archive of over 800 fire history records from around the world ([http://www.bridge.bris.ac.uk/projects/QUEST\\_IGBP\\_Global\\_Palaeofire\\_WG](http://www.bridge.bris.ac.uk/projects/QUEST_IGBP_Global_Palaeofire_WG)). This database is also available through National Oceanic and Atmospheric Administration and provides a key tool for exploring past changes in global biogeochemical cycling, climate forcing, and ecosystem responses to global change. The lab is also engaged in field collecting modern plant specimens, which are housed in the Garrett Herbarium at the Utah Museum of Natural History, and fossil plant remains preserved in lakes and bogs. Botanical field collections are analyzed to understand recent (19th and 20th Century) and past (the last ~20,000 years) changes in vegetation communities, disturbance regimes, and climate variability. Students working in the GPWG lab are currently participating in research projects from the western U.S., Europe, Bolivia, and Africa.

### **Nicoll Lab for Quaternary Sedimentology and Geomorphology:**

Nicoll Lab for Quaternary Sedimentology and Geomorphology is involved with various projects that integrate applied geological techniques, including field-intensive stratigraphic, archaeological and geophysical research. The lab currently is equipped to process sediments for a variety of classic sedimentological techniques, including texture and particle size using mechanical and settling methods, and acetolysis methods such as those involved in pretreating samples for radiocarbon analysis at other AMS facilities. A major emphasis of current research in the lab includes processing of sediments from the modern Great Salt Lake and Pleistocene Lake Bonneville.

## **GRADUATE PROGRAM AND REQUIREMENTS**

### **1. GENERAL REQUIREMENTS**

**STUDENT PROGRESS:** A critical aspect of timely completion of your graduate degree is selecting a Supervisory Committee Chair and forming a committee as soon as possible. By the end of Fall Semester of the first year of study, graduate students should select a Supervisory Committee Chair. By the end of the second semester of the first year of study a complete Committee should be in place. Each student should maintain, in conjunction with her/his Committee Supervisor, a record of progress on the *Program Requirements* form (Appendix A and B). These forms are available from the office staff. Copies of the completed form should be distributed to the student's file and the student's interim advisor or committee chair. Students are required to demonstrate adequate progress toward a degree each semester to be approved for continued study by the department. The Director of Graduate Studies or the student's Supervisory Committee Chair will determine

whether adequate progress is being met and the required timeline with the assistance of the student, in accordance with the Graduate School requirements.

Students are required to complete an annual progress assessment on a *Department of Geography Graduate Student Progress Assessment* form (Appendix C). The purpose of the assessment is to help students set goals for completing their degrees, and to help advisors evaluate student progress and impediments to progress. This assessment is due by the end of the first week of Spring Semester, and should be turned in the student's advisor. The department encourages students to consult with their advisors on filling out the assessment.

**SUPERVISORY COMMITTEE:** A Supervisory Committee consists of three faculty members for Master's candidates and five faculty members for Doctoral candidates. It is the student's responsibility to initiate a written request for a committee by completing a *Request for Supervisory Committee* form (Appendix D) that is available from the office staff or on the University Graduate School website. Officially, the Department Chair nominates the committee members, including the chair; the Dean of the Graduate School makes the appointment. **The committee chair must be a regular faculty member in the Department. Persons who are not regular faculty in the department cannot comprise a majority of any Master's or Doctoral supervisory committee.** Persons who are not regular faculty of the Department or who do not have an official appointment with the University must be approved by the Graduate Council. Students must provide the Department and the Graduate School with curriculum vitae for any committee members not from the University of Utah. Persons who are enrolled as students in the Geography graduate program may not serve in an official capacity on a Geography Supervisory Committee, regardless of any auxiliary appointment they might hold concurrently in the Department. **At least one member of a PhD student's committee must be from outside of the Geography Department.**

The Committee advises the student in planning a degree program and selecting and planning thesis research or non-thesis equivalents. If the Supervisory Committee finds preliminary work deficient, they may require of the student additional undergraduate courses for which graduate credit will not be allowed. If a graduate student leaves the University without requesting a leave of absence from the Department, the Supervisory Committee will be disbanded.

**REQUIRED PROFICIENCIES & COURSEWORK:** All graduate students should have acceptable courses or proficiency in Geographical Analysis (GEOG 3020), Principles of Cartography (GEOG 3040), and introductory calculus (MATH 1210). These requirements must be met during the first year of graduate work. If you are planning on taking the GIS series of courses you must have an acceptable course or proficiency in Introduction to GIS (GEOG 3140). Courses or proficiencies used to fulfill these requirements do not count toward graduate credit and should originally be fulfilled as part of the undergraduate program or remediation prior to entering through the graduate program. See specific information under the Master's or Ph.D. program, as appropriate.

**COURSE LOAD:** Graduate students are considered full time when registered for 9 credit hours, and are not permitted to register for more than 16 credit hours in any semester (includes daytime and evening classes). Teaching Assistants and Research Assistants receiving tuition waivers are required to be registered for a minimum of 9 credit hours in courses listed at the 6000 level and above (i.e., 5000 level is acceptable if there is not a 6000 level course available). Funded Teaching Assistants are not to exceed 12 credit hours per semester, while the maximum credit hours for Research Assistants with waivers is 11 hours. If a funded student exceeds the credit hour limit, that student is responsible for payment of the additional credit hours taken (which will be charged at the resident rate). Students registered for 5 to 8 credit hours per semester are considered part time. Credit hours registered at 4 or below are considered less than part time. Students who have finished all required course work, had their Thesis/Technical Report/Dissertation proposal approved, and taken their exams are considered full time when registered for Thesis Hours (GEOG 6970 for Master's) or Dissertation Hours (GEOG 7970 for Ph.D.) for 3 credit hours or more per semester.

**CONTINUOUS REGISTRATION:** Every student for whom a Supervisory Committee has been appointed must register for a minimum of 3 credit hours every fall and spring semester until all requirements for the degree are completed. **Students must also register during summer semester if University facilities are used, if there is consultation with the Supervisory Committee, or if final oral examinations are taken.** Students who do not enroll in regular courses, seminars, independent study, or thesis/dissertation research, must register for Faculty Consultation (GEOG 6981 or GEOG 7981 for Master's and Doctoral candidates, respectively) which carries three credit hours. This typically occurs during the last semester, when the student's thesis/dissertation defense is held. GEOG 6981 or GEOG 7981 (Faculty Consultation) does not count toward thesis hours or fulfillment of degree requirements. Doctoral students who have advanced to candidacy (successfully completed qualifying exams and their dissertation proposal approved) may enroll in Continuous Registration (GEOG 7990) for zero credit hours and a charge (subject to change without notice) of \$37.50 per semester. This course number is used for Doctoral students working on their dissertation **off** campus. Students are allowed to take this course for

up to four (4) semesters but **cannot** defend while registered under this course. Students who take their last examination after the final examination period and before the next semester begins are not required to register for the next semester. They will graduate the semester all Graduate School requirements are fulfilled. A graduate student who does not intend to register for classes, consult with the Supervisory Committee, or use University facilities may request a Leave of Absence. The *Graduate Student Request for Leave of Absence* form (Appendix E) can be picked up from the office staff or on the University Graduate School website. The Graduate School upon recommendation from the Department may grant leaves of absence. Typical situations for which leaves may be requested are prolonged illness or absence from the state for research or military service. A graduate student who fails to register for a term (excluding summer terms) is immediately made ineligible to register for future terms. The student must reapply for admission to graduate studies at the University. A completed graduate admissions application with fee must be sent to the Admissions Office by the appropriate term deadline. The student should also contact the department regarding their readmission to the program.

#### G.P.A. AND CREDIT:

**G.P.A.** - Students must maintain a minimum GPA of 3.0 with no grade lower than a “B-” in courses taken for graduate credit.

**Graduate Credit/No-Credit Options - No student may elect to register for CR/NC courses in Geography.** A graduate student may, subject to approval by the major department and review by the Dean of the Graduate School, enroll in courses, which are graded on a CR/NC basis, rather than on a letter grade basis. Students may register for one class each semester, on a CR/NC basis, during their first year in the graduate program. Of the first year’s work, courses taken for CR/NC grades should not exceed about 25% of the student’s total credits and generally would be less than 25%. In the case of some students, particularly those who intend to pursue Ph.D. studies, the interim advisor or Committee chair may require that all classes taken in the first year be taken on a letter grade basis. The first year is defined as 18 credit hours, which is two semesters of full-time work. After the first year in graduate school, the student may register for more than one class on a CR/NC basis by requesting permission from the Director of Graduate Studies.

Each department has maximum flexibility to create an optimal program for each student. In all cases regardless of length of enrollment, the choice of courses to be taken on a CR/NC basis is subject to the approval of the Director of Graduate Studies or Chair acting on behalf of the student’s department. All courses which are listed for one credit hour or less will be graded for all students on a simple CR/NC basis, unless the use of regular letter grades is approved by the Graduate Council. Graduate students should earn a grade of “C” or better to be entitled to “credit”. Students who do not wish to register for credit, letter grades, or the CR/NC option should audit the course

## **2. MASTER’S PROGRAM**

The program for a Master of Arts or a Master of Science degree in Geography usually requires at least two (2) years of work. Those specializing in geographic information science may require additional time. All work for the degree must be completed within four (4) consecutive calendar years. The Dean of the Graduate School can modify or waive this requirement on recommendation by the student’s Supervisory Committee. The following information pertains to the thesis and technical report options.

TRANSFER CREDIT: Six credit hours of graduate credit may be transferred from the University of Utah or other institutions and may be applied toward the graduate degree requirements. (If a student seeks graduate credit for courses taken as an undergraduate at the University of Utah, the *Undergraduate Petition for Graduate Credit* (Appendix F) form must be completed and filed with Graduation Division, 250 N SSB, Window 16.) Students must petition the course/s by completing a *Department Coursework Petition* form (Appendix G). You must have your Supervisory Committee Chair approve and sign the petition and then you must submit it to the Director of Graduate Studies and Department Chair for approval. Credits transferred from another institution may be used for only one degree. Credit may be applied toward fulfillment of graduate degree requirements if it: (1) does not replace GEOG 6961 or GEOG 6960 taken at the University of Utah, (2) is of high letter grade, A or B, (“credit only” grades are unacceptable); (3) is recommended by the student’s Supervisory Committee, (4) is approved by the department’s Director of Graduate Studies and the Chair, (5) was taken no more than four years prior to the semester of admission to the University of Utah master’s program and (6) has not been used toward a prior degree.

HOURS REQUIREMENT: Candidates for M.A. and M.S. degrees must devote a minimum of 30 credit hours to graduate courses and thesis. Graduate students must register for courses listed as 6000 or above to obtain graduate credit. However, a course listed at the 5000 level is acceptable for graduate credit if that course does not have a listing at the 6000 level or above. A minimum of 24 credit hours must be in course work; with the balance in thesis hours or technical report hours. The candidate is required to maintain a 3.0 or higher GPA in course work listed on the *Application for Admission to Candidacy* form (Appendix H) for the Master’s Degree. No graded work below a B- is acceptable toward the degree.

**REQUIRED PROFICIENCIES & COURSEWORK:** All graduate students should have acceptable courses or proficiency in Geographical Analysis (GEOG 3020), Principles of Cartography (GEOG 3040), and introductory calculus (MATH 1210). These requirements must be met during the first year of graduate work. If you are planning on taking the GIS series of courses you must have an acceptable course or proficiency in Introduction to GIS (GEOG 3140). Courses or proficiencies used to fulfill these requirements do not count toward graduate credit and should originally be fulfilled as part of the undergraduate program or remediation prior to entering through the graduate program.

Master's students are required to complete GEOG 6961 (Seminar in Geographic Thought and Inquiry) Fall Semester and either WRTG 6000 (Writing for Publication) *or* WRTG 7060 (Scientific Writing) during the first year of graduate study. Graduate students are also required to complete at the University of Utah: GEOG 6000 (Spatial Statistics), GEOG 6010 (GeoComputation), and two GEOG 6960 (Seminar in Geographic Problems). GEOG 6960 may be taken for credit more than once, but a student may not take both required seminars from the same faculty member. In addition, Master's students are required to take a minimum of 5 credit hours in elective courses 6000 level or above (i.e., courses numbered 5000 are acceptable if they are not available at the 6000 level), and a minimum of 6 credit hours in GEOG 6970 (Thesis Research) or GEOG 6974 (Technical Report Research). Up to 10 credit hours of GEOG 6970 may be counted toward the master's degree. The elective courses are arranged with the student's Supervisory Committee in accordance with the Graduate School requirements as indicated in the Graduate School Bulletin. Students doing independent study courses (i.e. 6950, 7950, 6951, 7951, etc.) must complete a *Request for Individual Projects* form (Appendix I) and return it to the office staff to get a registration number. Students are expected to adhere to the high standards of ethics in their research, course work, and examinations, as outlined in the University Student Behavior Code. For Graduate School and Thesis Office deadlines contact the Geography Graduate Secretary or view: [http://www.gradschool.utah.edu/students/masters\\_calendar.php](http://www.gradschool.utah.edu/students/masters_calendar.php).

**COLLOQUIA:** Each year the Department sponsors a colloquia series in which presentations are made by faculty, graduate students, and guests. **Participation is an important aspect of graduate education and graduate students are strongly encouraged to attend regularly.** Colloquia attendance is required for funded students.

Graduate students are required to present their research findings in a colloquium as part of the thesis, dissertation, or technical report proposal process. Students must have 1) a Supervisory Committee form, 2) the proposal in written form and 3) permission from their Committee Chair to schedule a colloquium. The colloquium is documented and verified on the student's *Thesis/Technical Report/Dissertation Proposal Approval* form (Appendix J) and should be completed before the student is allowed to register for thesis or technical report hours. **The colloquium is not the thesis or technical report defense.**

**THESIS/TECHNICAL REPORT PROPOSAL:** Preliminary research and the research proposal for the thesis/technical report is normally a component of GEOG 6961. Topic selection, proposal preparation, and option choice are performed in consultation with the student's Supervisory Committee. After the option choice has been verified by the committee on the *Thesis/Technical Report/Dissertation Proposal Approval* form (Appendix J), any change in option must be approved by the committee and documented on the *Request to Change Thesis/Technical Report/Dissertation Option* form (Appendix K). Upon supervisory committee approval of the student's formal written proposal, one copy of the proposal must be submitted along with the *Thesis/Technical Report/Dissertation Proposal Approval* form (Appendix J) to the Department Graduate Secretary. After the student completes the departmental Colloquium, the proposal will be made available to the faculty for a 10-day period for review to receive departmental approval. Departmental approval is required before the student may register for thesis research hours (GEOG 6970) or technical report research hours (GEOG 6974). For *Guidelines for Dissertation/Thesis/Technical Report Proposals* see Appendix L.

**LANGUAGE:** Candidates for the Master of Arts degree must be certified by the Department of Languages and Literature as having demonstrated "standard proficiency" in at least one foreign language. The Department must approve the choice of language. (Refer to the Graduate School Bulletin for further details.) There is no language requirement for the Master of Science Degree.

**APPLICATION FOR CANDIDACY:** Before a student can receive candidacy the following items must be completed and approved: (1) Supervisory Committee form, (2) thesis/technical report proposal approved by supervisory committee, (3) presentation of proposal in a departmental colloquium, (4) Department faculty approval of the proposal, (5) course work must be approved by the student's Supervisory Committee and the Department Chair by filing an *Application for Admission to Candidacy* form (Appendix H). The student should apply for candidacy no later than one semester before graduation and no earlier than two semesters before graduation. The Supervisory Committee, the Department Chair/Director of Graduate Studies and the Dean of the Graduate School must approve applications.

**THESIS OPTION:** This program requires a minimum of 30 credit hours of course work (including thesis). Each candidate for the Master's degree who selects the thesis option must present a research thesis representing from 6 to 10 credit hours of GEOG 6970 on a subject within the field of Geography. Students who intend to advance into Ph.D. studies are advised to complete a thesis.

Upon completion of the thesis, graduate students must present their thesis (after approval by their committee chair) to all other committee members at least 14 days prior to the establishment of a date for a public defense of their project. After 14 days, the committee chair must poll the committee members as to their agreement that a defense is warranted and, if so, set the date. The committee chair is responsible for ensuring that the student observes this 14-day restriction. For *Guidelines for Dissertation/Thesis/Technical Reports* see Appendix L. Students are strongly encouraged to submit the manuscript (hard copy only) to the Thesis Editor for "preliminary review" at any time before the defense. The manuscript will not be read at this time, but it will be examined for obvious errors in University format. Manuscripts are not seen for preliminary review after defense.

**MANUSCRIPT OPTION (Modified Thesis Option):** The Manuscript Option is designed to facilitate a more timely publication of the thesis research in a peer reviewed journal. All degree requirements for this option are the same as for the Thesis Option, except the following:

1. **This option is only available at the discretion of the student's advisor and committee.** This option choice should be identified on the *Thesis/Technical Report/Dissertation Proposal Approval* form (Appendix J) for the committee and faculty to approve. If this option is subsequently changed, a *Request to Change Thesis/Technical Report/Dissertation Option* (Appendix K) should be signed by the committee.
2. The results of the Master's degree research are written in the form of a *publishable* manuscript targeted to a specific journal, together with introduction and conclusion chapters. "Publishable quality" consists of two components: a) the content of the paper; and b) the style and presentation.
3. The targeted journal must be identified as a high-quality outlet for the type of research conducted and must be approved by the student's advisor and committee.
4. Publication of the document does not fulfill graduation requirements. The document must still be approved by the student's advisor and committee.
5. Publication is not required for completion of the degree requirements.

The document must still be submitted to, and approved by, the thesis editor. Formatting should follow the guidelines in the thesis and dissertation handbook, which is available from the graduate school. If the paper is published prior to submission to the graduate school, the proofs or final paper can be accepted with the inclusion of short introduction and conclusion chapters. If in doubt about how to format the manuscript, contact the thesis editor.

**TECHNICAL REPORT OPTION:** All degree requirements for this option are the same as for the thesis option, except the following:

1. The results of Master's degree research are embodied in a technical report, the format of which must be approved in advance by the student's Supervisory Committee.
2. A *Thesis/Technical Report/Dissertation Proposal Approval* form (Appendix J) must be signed by the student's Supervisory Committee and the Department at an early stage in the Master degree research. To change options after documenting selection of this option on the approval form, a *Request to Change Thesis/Technical Report/Dissertation Option* (Appendix K) should be signed by the committee.
3. The quality of the Master's degree research that is embodied in a technical report must ultimately be approved by the student's Supervisory Committee and also must ultimately withstand peer review at a technical report defense, in which members of the academic and professional public participate. Upon completion of the technical report, graduate students must present their final technical report draft (after approval by their committee chair) to all other committee members at least 14 days prior to the establishment of a date for a public defense of their project. After 14 days, the committee chair must poll the committee members as to their agreement that a defense is warranted and, if so, set the date. The committee chair is responsible for ensuring that the student observes this 14-day restriction.
4. Two copies of the complete technical report (including all datasets, graphics, and other attachment(s) are to be provided to the Department in a final form that is suitable for permanent archiving (and controlled circulation among students and other borrowers), plus a digital copy on a CD.
5. The Technical Report option is particularly appropriate for graduate student programs that emphasize:
  - a. applied, rather than basic research
  - b. professional training and certification

- c. documentation of technical innovations and creations
  - d. preparation of instructional and educational materials
  - e. preparation of site, urban, regional, land-use, resource, and environmental planning documents
  - f. preparation and review of environmental impact statements and assessments
  - g. documentation pertaining to natural and technological hazards assessment, preparedness, response, and recovery.
6. The Technical Report option is not appropriate for students who may wish to continue in graduate school and earn a Ph.D. at a future date.

**FINAL ORAL EXAMINATION:** A final oral examination (usually known as the “thesis/technical report defense”) is scheduled by the Supervisory Committee and is open to the public. The thesis/technical report defense must be passed at least four weeks before graduation in a specific semester. The candidate’s Supervisory Committee will give the examination and the Committee Chair will chair the examination. The candidate must be enrolled for a minimum of three credit hours at the University of Utah during the semester of the oral defense. Most students register for three credit hours of GEOG 6970 (Thesis Research), GEOG 6974 (Technical Report Research), or GEOG 6981 (Faculty Consultation) during the semester of their oral defense.

**THESIS RELEASE:** For the department guidelines, see *Guidelines for Dissertation/Thesis/Technical Reports* (Appendix L). Students should purchase a booklet at the Thesis Editor’s Office (302 Park Building) containing guidelines for University approved theses/dissertations. By majority vote, the members of the Supervisory Committee certify on the *Supervisory Committee Approval* form (Appendix M) that the thesis has been found satisfactory for the degree. After making any changes to the manuscript that the Committee may require after the oral defense, the student will then submit the manuscript with signed form to the Department Chair for approval on the *Final Reading Approval* form (Appendix N). The Chair must sign the form to certify that the final thesis has been read and approved, that all materials are in order, and that the manuscript is ready to submit to The Graduate School.

The student must submit one complete copy of the thesis, with both approval forms, to the Thesis Office for format approval. After notification that the thesis has been read, the student must make an appointment to discuss any needed corrections. When the Format Approval is issued, three copies of the thesis, Committee Approval and Final Reading Approval forms (EACH signed and dated in BLACK ink) must be submitted along with other required materials to the thesis office. If all copies are complete and all other requirements for graduation have been met, a Thesis Release is issued. All processing of the manuscript must be completed by the last day of the semester for graduation in the semester.

### 3. PH.D. PROGRAM

The University of Utah confers graduate degrees upon candidates who meet the requirements designated by the appropriate graduate committees, the Graduate Council, and the faculty of the University. The Ph.D. degree is not awarded simply for the fulfillment of residence or credit requirements. It represents high scholarly achievement demonstrated by independent research. Each Ph.D. student is responsible for fulfilling all Departmental and University requirements and regulations at the designated time. The following is a summary of these regulations:

**STUDY REQUIREMENT:** Although students typically require more time, a minimum of three (3) years of approved graduate study (beyond the Master’s level) are required to complete the Ph.D. degree, **one year (2 consecutive semesters of 9 hours or more each) of which must be spent in continuous residence at the University of Utah.** The Department allows six (6) years for completion.

**MAJOR ALLIED FIELDS:** Each Ph.D. student is responsible for planning, in consultation with the student’s Supervisory Committee, a program of study, which may involve one or more allied fields. The Department may request that faculty from allied fields serve on the student’s supervisory committee and/or participate in doctoral examinations.

**STUDENTS WITHOUT A MASTER’S DEGREE:** Students admitted to the Ph.D. program are expected to have their Master’s degree completed and in hand upon their arrival in the Department. If Master’s thesis or other work is incomplete at that time, the Department will withdraw any aid offer it had made (without prejudice on future consideration for aid) and will ask you to re-apply to the program when the work has been completed.

**TRANSFER CREDIT:** Six (6) credit hours of graduate credit may be transferred from other institutions and may be applied toward the graduate degree requirements. Students must petition the course/s by completing a *Department Coursework Petition* form (Appendix G). You must have your Supervisory Committee Chair approve and sign the petition and then you

must submit it to the Director of Graduate Studies and Department Chair for approval. Credits transferred from another institution may be used for only one degree. Credit may be applied toward fulfillment of graduate degree requirements if it: (1) does not replace GEOG 6961 or GEOG 6960 taken at the University of Utah, (2) is of high letter grade, A or B, (“credit only” grades are unacceptable); (3) is recommended by the student’s Supervisory Committee, (4) is approved by the department’s Director of Graduate Studies and the Chair, (5) was taken no more than seven years prior to the semester of admission to the University of Utah doctoral program and (6) has not been used toward a prior degree.

**HOURS REQUIREMENT:** Candidates for the Ph.D. degree must devote a minimum of 32 credit hours of graduate courses and dissertation research. Graduate students must register for courses listed as 6000 or above to obtain graduate credit. However, a course listed at the 5000 level is acceptable for graduate credit if that course does not have a listing at the 6000 level or above. **At least 18 hours (one full year—two consecutive semesters of 9 or more hours each) must be in resident study in the Department of Geography at the University of Utah.** A minimum of 18 credit hours must be in course work, with the balance (a minimum of 14 credit hours) in dissertation research hours. The candidate is required to maintain a 3.0 or higher GPA in course work listed on the *Program of Study* form (Appendix O) for the Ph.D. Degree. No graded work below a B- is acceptable toward the degree.

**REQUIRED PROFICIENCIES & COURSEWORK:** All graduate students should have acceptable courses or proficiency in Geographical Analysis (GEOG 3020), Principles of Cartography (GEOG 3040), and introductory calculus (MATH 1210). If you are planning on taking the GIS series of courses you must have an acceptable course or proficiency in Introduction to GIS (GEOG 3140). Courses or proficiencies used to fulfill these requirements do not count toward graduate credit and should originally be fulfilled as part of the undergraduate program or through remediation prior to entering the graduate program. In addition, a previous writing course in Writing for Publication (WRTG 6000) or Scientific Writing (WRTG 7060) or suitable proficiency in writing is a requirement for the doctoral program.

Doctoral students are required to complete GEOG 6961 (Seminar in Geographic Thought and Inquiry) Fall Semester during the first year of graduate study. Graduate students are also required to complete at the University of Utah: GEOG 6000 (Spatial Statistics), GEOG 6010 (GeoComputation), and two GEOG 6960 (Seminar in Geographic Problems). GEOG 6960 may be taken for credit more than once, but a student may not take both required seminars from the same faculty member. In addition, doctoral students are required to take one credit hour of GEOG 7930 (Teaching Practicum) and a minimum of 14 credit hours in GEOG 7970 (Dissertation Research). Requirements which were filled as a Master’s student in the Department of Geography at the University of Utah do not have to be retaken. However, elective courses should be selected to replace the credit hours. Elective courses are arranged with the student’s Supervisory Committee in accordance with the Graduate School requirements as indicated in the Graduate School Bulletin. Students doing independent study courses (i.e. 6950, 7950, 6951, 7951, etc.) must complete a *Request for Individual Projects* form (Appendix I) and return it to the office staff to get a registration number. Students are expected to adhere to high standards of ethics in their research, course work, and examinations, as outlined in the University Student Behavior Code. For Graduate School and Thesis Office deadlines contact the Geography Graduate Secretary or view [http://www.utah.edu/graduate\\_school/phdcalendar.html](http://www.utah.edu/graduate_school/phdcalendar.html).

**DEPARTMENT COLLOQUIA:** Each year the Department sponsors a colloquia series in which presentations are made by faculty, graduate students, and guests. **Participation is an important aspect of graduate education and graduate students are strongly encouraged to attend regularly. Colloquia attendance is required for funded students.**

Graduate students are required to present their research findings in a colloquium as part of the thesis, dissertation, or technical report proposal process. Students must have 1) a Supervisory Committee form, 2) the proposal in written form and 3) permission from their Committee Chair to schedule a colloquium. The colloquium is documented and verified on the student’s *Thesis/Technical Report/Dissertation Proposal Approval* form (Appendix J) and should be done before the student is allowed to register for thesis or technical report hours. **The colloquium is not the dissertation defense.**

**PROPOSAL:** Selection of the topic, proposal preparation, and option choice are performed in consultation with the student’s Supervisory Committee. After the option choice has been verified by the committee on the *Thesis/Technical Report/Dissertation Approval* form (Appendix J), any change in option must be approved by the committee and documented on the *Request to Change Thesis/Technical Report/Dissertation Option* form (Appendix K). Upon supervisory committee approval of the student’s formal written proposal, one copy of the proposal must be submitted along with the *Thesis/Technical Report/Dissertation Proposal Approval* form (Appendix J) to the Department Graduate Secretary. After the student completes the departmental colloquium, the proposal will be made available to the faculty for a 10-day period for review to receive departmental approval. Departmental approval is required before the student may register for research hours (GEOG 7970). For *Guidelines for Dissertation/Thesis/Technical Report Proposals* see Appendix L.

**TEACHING REQUIREMENT:** Each Ph.D. student must participate in a practical teaching experience during her/his program by taking one credit hour of GEOG 7930 (Teaching Practicum). The nature of the teaching experience will be determined by the student's Supervisory Committee.

**RESEARCH SKILLS REQUIREMENT:** All Ph.D. students in the Department of Geography must demonstrate proficiency in at least two Geographic skills. These skills may include competence in a foreign language at the Standard or Advanced Proficiency level, cartography and geo-visualization, field methods, geo-computational methods, graphic information science (GIS), macrofossil analysis, palynology, plant taxonomy, remote sensing and image analysis, and spatial statistics. The specific skills required of a student and the acceptable level (in-depth advanced proficiency) of proficiency in each skill will be determined by the student's Supervisory Committee. Proficiency in more than two research skills may be required at the option of the Supervisory Committee. The research skills requirement must be completed before the student may take his/her qualifying examinations. The Supervisory Committee must verify/document on the *Skills Proficiency* form (Appendix P) that the prescribed skill requirement has been met properly.

**PROGRAM OF STUDY FOR THE PH.D.:** Candidates for the Ph.D. degree ordinarily must complete no fewer than three full years (six semesters) of approved graduate work (i.e., courses numbered 6000 and above). More time may be required.

If a Supervisory Committee finds a graduate student's preliminary work or writing skills deficient, the student may be required to register for and complete supplementary courses that do not carry graduate credit. In addition, the Chair of the Committee is strongly encouraged to carefully assess the student's writing skills and work individually with the student using an independent study course to correct any writing inadequacies. Ph.D. candidates must file the *Program of Study* form (Appendix O), which lists course work and dissertation hours, with the Graduate Records Office no later than one semester before graduation and no earlier than one year before graduation. Courses taken through alternative delivery methods, for example, via EDNET or the Internet, are approved on a programmatic basis through the Graduate Council.

**QUALIFYING EXAMINATION:** A series of written and oral examinations (variously referred to as "preliminary examinations" or "Ph.D. comprehensive examinations") not to exceed 20 hours in length is required of each Ph.D. student. Subject matter and format are selected in consultation with the Supervisory Committee. These examinations must be passed no later than one semester before graduation. The examinations may be repeated only once, and only at the discretion of the student's Supervisory Committee.

**APPLICATION FOR ADMISSION TO CANDIDACY:** Before a student can receive candidacy the following items must be completed and approved: (1) Supervisory Committee form, (2) dissertation proposal approved by supervisory committee, (3) presentation of proposal in a departmental colloquium, (4) Department faculty approval of the proposal via 10-day perusal period, (5) Research Skills form verifying/documenting proficiency in two or more research skills by Committee, (6) course work must be approved by the student's Supervisory Committee and the Department Chair by filing a *Program of Study* form (Appendix O), and (7) pass the qualifying written and oral exams. After satisfying the qualifying examination requirements, the student should file a *Report of the Qualifying Examination and Recommendation for Admission to Candidacy* form (Appendix Q). The student should apply for candidacy no later than one semester before graduation and no earlier than two semesters before graduation.

**DISSERTATION:** Each candidate for the Ph.D. must present a dissertation (representing a minimum of 14 credit hours of GEOG 7970), embodying the result of independent research and constituting a contribution to knowledge and/or methodology in the student's field. The dissertation is approved by the student's supervisory committee. At least three weeks before the final oral examination (dissertation defense), the student should submit an acceptable draft of the dissertation to the chair of the supervisory committee; committee members should receive copies at least two weeks before the examination date. After 14 days, the committee chair must poll the committee members as to their agreement that a defense is warranted and, if so, set the date. The committee chair is responsible for ensuring that the student observes this 14-day restriction. For *Guidelines for Dissertation/Thesis/Technical Reports* see Appendix L. Students are strongly encouraged to submit the manuscript (hard copy only) to the Thesis Editor for "preliminary review" at any time before the defense. The manuscript will not be read at this time, but it will be examined for obvious errors in University format. Manuscripts are not seen for preliminary review after defense.

**MANUSCRIPT OPTION (Modified Dissertation Option):** The Manuscript Option is designed to facilitate a more timely publication of the dissertation research in peer reviewed journals. All degree requirements for this option are the same as for the Dissertation Option, except the following:

- 1. This option is only available at the discretion of the student's advisor and committee.** This option choice should be identified on the *Thesis/Technical Report/Dissertation Proposal Approval* form (Appendix J) for the

committee and faculty to approve. If this option is changed, a *Request to Change Thesis/Technical Report/Dissertation Option* (Appendix K) should be signed by the committee.

2. The results of the Doctoral degree research are written in the form of three *publishable* manuscripts targeted to specific journals, together with introduction and conclusion chapters. The papers must be closely related; the introduction and conclusion chapters must explicitly identify the interrelated themes and future research agenda. “Publishable Quality” consists of two components: a) the content of the papers; b) the style and presentation.
3. The targeted journals must be identified as a high-quality outlet for the type of research conducted, and approved by the student’s advisor and committee.
4. Publication of the document does not fulfill graduation requirements. The document must still be approved by the student’s advisor and committee.
5. Publication is not required for completion of the degree requirements.

The document must still be submitted to, and approved by, the thesis editor. Formatting should follow the guidelines in the thesis and dissertation handbook, which is available from the graduate school. If the papers are published prior to submission to the graduate school, the proofs or final papers can be accepted with the inclusion of short introduction and conclusion chapters. If in doubt about how to format the manuscript, contact the thesis editor.

**FINAL ORAL EXAMINATION:** A final oral examination (usually known as the “dissertation defense”) is open to the academic and professional community, and must be passed at least four weeks before graduation in a specific semester. The candidate’s Supervisory Committee will give the examination and the Committee chair will chair the examination. The candidate must be enrolled for a minimum of three credit hours at the University of Utah during the semester of the oral defense. Most students register for three credit hours of Dissertation Research (GEOG 7970) or Faculty Consultation (GEOG 7981) during the semester of their oral defense.

**DISSERTATION RELEASE:** For the department guidelines, see *Guidelines for Dissertation/Thesis/Technical Reports* (Appendix L). Students should purchase a booklet at the Thesis Editor’s Office (302 Park Building) containing guidelines for University approved theses/dissertations. By majority vote, the members of the Supervisory Committee certify on the *Supervisory Committee Approval* form (Appendix R) that the thesis has been found satisfactory for the degree. After making any changes to the manuscript that the Committee may require after the oral defense, the student will then submit the manuscript with signed form to the Department Chair for approval on the *Final Reading Approval* form (Appendix S). The Chair must sign the form to certify that the final thesis has been read and approved, that all materials are in order, and that the manuscript is ready to submit to The Graduate School.

The student must submit one complete copy of the thesis, with both approval forms, to the Thesis Office for format approval. After notification that the thesis has been read, the student must make an appointment to discuss any needed corrections. When the Format Approval is issued, three copies of the thesis, Committee Approval and Final Reading forms (EACH signed and dated in BLACK ink) must be submitted along with other required materials to the thesis office. If all copies are complete and all other requirements for graduation have been met, a Thesis Release is issued. All processing of the manuscript must be completed by the last day of the semester for graduation in that semester.

### **FINANCIAL ASSISTANCE**

Teaching fellowships are awarded on a competitive basis as Departmental needs and funds allow. Teaching and research assistantship stipend amounts range from \$11,000-\$12,000 and include a tuition waiver. If you did not receive assistance during your first year, this does not preclude you from subsequent consideration. Eligible students are considered as part of a pool, which includes:

- a) new student applicants who have requested financial aid,
- b) current holders of financial aid, and
- c) current graduate students who have applied for financial aid.

Current holders of financial aid and other students who wish to be considered for aid must submit an application to the Director of Graduate Studies no later than January 20<sup>th</sup> of each year. This application must include a letter requesting aid, a current transcript and three letters of recommendation from faculty in this Department. Financial aid may be withdrawn from awardees under the following conditions: a) failure to maintain required minimum grades, b) failure to adequately fulfill work obligations, c) failure to make adequate progress toward a degree, e.g., to form a Supervisory Committee or to

complete a thesis proposal by the scheduled time. These constraints also apply to those who are employed as Research Assistants for funded research programs.

Directors of funded research projects have total responsibility for selecting their Research Assistants. However, project directors should attempt to meet the time schedule used by the Department in making aid offers.

In cases where a teaching fellow resigns, leaves the program, or fails to meet academic or work obligations, the Department Chair and the Director of Graduate Studies will make the selection of a replacement. All such selections are made from the aid pool and an attempt will be made to select students who have been given a high priority for aid by the faculty. The Director of Graduate Studies makes the actual offer of aid to the student.

Priority in rendering aid is given to those students who currently hold aid under the conditions that they have reasonably fulfilled their obligations, have not exceeded their aid time limitation, and are making reasonable progress toward a degree. In general, the term for holding financial aid for a graduate student is a maximum of 4 semesters for Master's students and 6 semesters for Ph.D. students (excluding summer work). Tuition waivers are regarded as financial aid and are administered in the same manner as Teaching Fellow stipends.

**OTHER FINANCIAL AID:** Research assistantships are available as a result of grants awarded to the Departmental faculty, DIGIT, and other departmental centers that provide aid for students. Graduate students are encouraged to seek their own financial support by applying for fellowships and other aid, including Federal Work Study Grants. Full research assistant recipients are entitled to a waiver of tuition. Other possibilities include University Fellowships, National Science Foundation Dissertation Fellowships, NASA Research Grants, Fulbright Grants, and Mariner S. Eccles Fellowships. If you are interested in acquiring outside aid, contact the Department Chair, the Graduate Fellowship Office (Graduate School), or the Financial Aid Office of the University.

**GRADUATE RESEARCH FELLOWSHIPS:** The Graduate Research Fellowship is a one-year award. Students may apply for a second-year award. Only in rare cases will a student be allowed to apply for a third-year award.

Who may apply? Full-time graduate students working toward Ph.D. degrees are eligible if they have been admitted to candidacy prior to the beginning of the Fall semester for the award. Further information pertaining to University fellowships can be found on the Graduate School website at <http://www.gradschool.utah.edu/tbp/finassist.php#fellowships>

**ADDITIONAL EMPLOYMENT POLICY FOR TA/RA/GA'S:** Funded graduate students are required to work 20 hours per week on departmental assignments and agree not to seek employment outside of the Department for more than 10 hours per week. If you want to work at another job on campus, please talk to Lisa first in order to avoid any problems with tuition benefits, etc.

**RESIDENCY AND TUITION:** Current tuition for full-time non-resident students is more than triple the resident tuition. Residency may be established if the applicant: 1) student completes 40 semester credit hours at a matriculated graduate student at the University of Utah; 2) demonstrates by additional objective evidence, including Utah voter registration, Utah drivers license, Utah vehicle registration, employment in Utah, payment of Utah resident income taxes, and Utah banking connections, the establishment of a domicile in Utah and that the student does not maintain a residence elsewhere. **Funded graduate students receiving tuition waivers are required to apply for residency when they meet the 40 hours requirement. The Tuition Benefit Plan (TBP) includes resident (in-state) tuition only for Research Assistants who have exceeded 84 credit hours as University of Utah graduate students. Non-resident RAs with more than 84 credit hours are responsible for the difference between the resident and non-resident tuition amount.** However, non-resident tuition is not imposed on matriculated students whose total registration includes only GEOG 6970, 6981, 7970 or 7981. Also, non-resident students who qualify for the TBP may take additional credit hours above the TBP limit at in-state (resident) rates. For further information and application forms on Utah Residency go to the following website: <http://www.sa.utah.edu/admiss/ResInstruct.htm>.

## **STUDENT PARTICIPATION**

Graduate students are encouraged to constructively participate in departmental affairs through a number of avenues. Membership on the Student Advisory Committee (SAC) allows students a vehicle for evaluating instructors, courses, programs, etc. This committee sends a student representative to faculty meetings; the student representative has the right to participate fully in these meetings. Each faculty committee also has a student member. Nominations to the committees are

made by SAC and approved by the faculty. Students are also encouraged to attend the thesis and dissertation defenses of other students. For additional information regarding SAC, please contact the SAC Chair.

## ORGANIZATIONS

The Department encourages all graduate students to participate in at least one professional organization. Some possibilities are as follows:

Association of American Geographers (AAG): Your status as a full-time student allows you to take advantage of substantially reduced membership fees for AAG. The University of Utah is in the Great Plains-Rocky Mountain division of the AAG. Your membership entitles you to receive the Annals of the Association of American Geographers, The Professional Geographer, AAG Newsletter, and access to Jobs in Geography job listings. Applications may be obtained from the Department Office. Students are encouraged to enter papers into student paper competitions, which are held each year at the regional and national conferences. If your paper is accepted, you will present it orally at one of the conferences. Prizes are awarded for the best papers in specific areas of research.

National Council for Geographic Education (NCGE): The NCGE is dedicated to the improvement of Geographic education at all levels. Student membership includes a subscription to the Journal of Geography and other benefits. This organization is especially useful to pre-college schoolteachers.

American Society of Photogrammetry and Remote Sensing: Student memberships are available to those interested in remote sensing, photo interpretation, and mapping. Interested students should contact Dr. George Hepner.

Gamma Theta Upsilon (G.T.U.): Gamma Theta Upsilon, a national honorary fraternity for Geographers, has a local chapter. New members or present members interested in participating should contact the Department Office for information.

Western Regional Science Association: This organization is affiliated with the Regional Science Association International and seeks the advancement of regional analysis and related spatial and aerial studies through multidisciplinary analysis. Contact Dr. Harvey Miller for additional information.

## DEPARTMENTAL INFRASTRUCTURE

### Departmental Office (OSH 270 and adjacent areas)

The following guidelines have been established to create and maintain an efficient, pleasant working environment--please **do not** ask staff members to make exceptions to policy. While the Departmental staff is happy to assist you with your needs, please remember that questions regarding individual programs should be directed to faculty advisors or the Director of Graduate Studies. Office staff is not available for typing, information gathering or problem solving of a personal nature. The office itself is a place of business and should not be used for social gatherings.

The H. Bowman Hawkes Conference room is available for student meetings upon scheduling with office staff. Though it is permissible to use the Hawkes Conference room for review of dissertations and theses, it is not to be used as a study hall. The conference room in OSH 215 is also available for meetings. Please contact the office staff to reserve this room.

OFFICE EQUIPMENT AND SUPPLIES: The computers and printers located in 270 OSH are not available for student use. Similar equipment designated for student use may be found in the CSBS labs (273 and 277 OSH) and the Teaching Assistant's office (109 OSH). Office staff and instructors handle instructional photocopy needs; personal photocopies may be obtained from the Copy Center (Student Union Bldg), Marriott Library, and the Geography office. Persons using the departmental copy machine for personal photocopies will receive an account from the office staff and will be charged 8¢ per copy. You will receive an invoice once a month for copies made during the previous month. The office supplies are not for the general use of graduate students except as they are required for instruction. Supply items may not be purchased through the office.

MAIL, TELEPHONES AND COMMUNICATION: A telephone for graduate student use is located in OSH 109 and 117 and may be used to place on-campus and local calls. Long distance calls can be made from the pay phone located in the

North wing on the second floor of OSH. The telephones in the office are not for student use. If you want to send a fax, you must ask for permission from the office staff. If you send a fax, you must pay for it.

Every graduate student will have a mailbox located in 270 OSH. Mail arrives each morning and is promptly sorted. Please do not ask office staff to monitor your mail. **University guidelines discourage all personnel from having personal mail delivered to campus addresses; the Department supports this policy. Upon departure from the Department, all offices and agencies should be notified of your new address.**

**CHANGE OF ADDRESS:** Graduate students are responsible for notifying the Department and University of changes in status as well as changes of address or telephone number.

**KEYS:** The Department Chair reviews key requests. All students are required to pay a \$5.00 refundable deposit for each key issued. All personnel and graduate students are responsible for maintaining security by locking doors behind them, by reporting lost or stolen keys and by not loaning keys to unauthorized personnel or graduate students.

**OFFICE ASSIGNMENTS:** The Department endeavors to provide desk space for its graduate students on the first floor. Because the request for desk space always exceeds the availability, assignments are made according to the following priority: 1) students funded by the Department; 2) students on fellowships; 3) SAC leaders; 4) Ph.D. students without funding; 5) Master's students without funding.

**LOCKERS:** A small bank of lockers located on the first floor of OSH have been designated for graduate and undergraduate use and are to be assigned by SAC using Departmentally authorized padlocks. Students may not use their own locks. SAC leaders should be contacted for additional information.

**DIGIT:** Geographic Information Technologies for the Department of Geography is housed in the DIGIT Lab located in OSH 275. The administrative office is located in OSH 270H. Further details of DIGIT listed under the Special Facilities on page 4 of this handbook.

**COLLEGE OF SOCIAL & BEHAVIORAL SCIENCE COMPUTER LABS:** The computer labs are located in OSH 273 and OSH 277 which includes GIS, computer cartography graphic software, image processing, and other software processes specified under the Special Facilities on page 4 of this handbook. The laboratory hours vary from semester to semester. The CSBS Computing Staff has installed a card swipe system so that students can access and use the computer lab and printers. The current lab hours will be posted on the computer desktops as you log in. Using this equipment, which is both costly and vital to the operation of the Geography Department and the College, is a privilege that can be revoked for any infraction of the guidelines established by SBS College Computing staff. Food and drink must not be brought into the Lab.

**CLASSROOM USE:** Each instructor is responsible for leaving classrooms in good condition for the next class. Please make sure chalkboards or whiteboards are erased and the room is left in order.

**AUDIO-VISUAL EQUIPMENT:** The Department has an LCD/data projector, two laptops, and an overhead projector which are located in 270 OSH. This equipment is available for teaching and research use only. You must make arrangements in advance with office staff to check out any of this equipment and return it *immediately* after use so others can use it. Equipment may not be kept overnight or in offices. All malfunctioning equipment should be reported immediately to office staff.

### **USEFUL WEBSITES**

University of Utah: <http://www.utah.edu>

Department of Geography: <http://www.geog.utah.edu>

The Graduate School: <http://www.gradschool.utah.edu/index.php>

## PAPERWORK CHECKLIST

All paperwork is available from the office staff or on the department website. However, University forms can be found on-line at <http://www.gradschool.utah.edu/index.php>. You are responsible for obtaining all signatures. The department will send the paperwork to the graduate school after you have obtained all of the appropriate signatures.

### MASTERS

- \_\_\_\_\_ Department of Geography Graduate Student Progress Assessment form
- \_\_\_\_\_ Request for Supervisory Committee Form (must be in place before any other paperwork is completed)
- \_\_\_\_\_ Thesis/Technical Report/Dissertation Proposal Approval Form
- \_\_\_\_\_ Application for Admission to Candidacy for the Master's Degree Form
- \_\_\_\_\_ Report of the Final Oral Examination and Thesis for the Master's Degree **OR**
- \_\_\_\_\_ Report of the Final Oral Examination Form (Non-Thesis Master's option)

### PH.D.

- \_\_\_\_\_ Department of Geography Graduate Student Progress Assessment form
- \_\_\_\_\_ Request for Supervisory Committee Form (must be in place before any other paperwork is completed)
- \_\_\_\_\_ Thesis/Technical Report/Dissertation Proposal Approval Form
- \_\_\_\_\_ Skills Proficiency Form
- \_\_\_\_\_ Program of Study for the Ph.D. Degree Form
- \_\_\_\_\_ Report of the Qualifying Examination for the Ph.D. Degree and Recommendation for Admission to Candidacy Form
- \_\_\_\_\_ Report of the Final Oral Examination Form for Ph.D.

### APPENDICES

The following appendices are *samples* only. Students may obtain official copies of the forms listed in the appendices from the office staff or on the Graduate School website (see above). Each of these forms is to be completed by the student who will also obtain the appropriate signatures. All forms are to be typed.