

**GUIDE FOR STUDENTS IN  
M.S. PROGRAM WITH CONCENTRATION IN HYDROGEOLOGY  
Department of Geosciences  
Stony Brook University**

## **INTRODUCTION**

The purpose of this guide for students in the M.S. program with concentration in Hydrogeology is three fold:

- to explain the specific requirements for the degree,
- to provide guidance in selection of courses, and
- to explain some of the more common academic procedures.

Any rules and regulations provided in this guide are subject to the general rules and regulations of the University. These are explained in the Graduate Bulletin.

[http://www.grad.sunysb.edu/academics/bulletin/BULLETIN\\_HTM.htm](http://www.grad.sunysb.edu/academics/bulletin/BULLETIN_HTM.htm)

## **I DEGREE REQUIREMENTS**

The Hydrogeology Curriculum offered by the Department of Geosciences, Stony Brook University, leads to a M.S. degree with a concentration in Hydrogeology. Students may combine either 21 course credits with 9 credits of research or 24 course credits with 6 credits of research.

### **A Course Requirements**

Students are required to complete the four 3-credit courses in Category A and they may select three or four 3-credit courses from category C (see below). If a student is deficient in either writing or communication skills, computer programming, or statistics, he or she is encouraged to take a category B course and substitute it for a category C course. Only one substitution is allowed. In some cases, graduate credits obtained elsewhere may be substituted for either a category A or C course. Transfer of graduate credits is discussed in section III of this guide.

Category A Courses: All of these courses are required.

GEO 514 Introduction to Physical Hydrogeology  
GEO 515 Geohydrology  
GEO 519 Geochemistry of Natural Waters  
GEO 526 Low-temperature Geochemistry

Category B Courses: One of these courses may substitute for a Category C course.

AMS 576 Statistical Methods for Social Scientists  
CEN 534 Computer Assisted Math Problem Solving  
EST 588 Technical Communication for Management and Engineering  
HPH 511 Biostatistics for Public Health

Category C Courses: Three or Four of the following courses are required.

CEN 514 Geology of Long Island  
CEY 503 Environmental Law  
DPA 526 The Use of Remote Sensing and GIS in Environmental Analysis  
EST 593 Risk Assessment and Hazard Management  
EST 595 Principles of Environmental Systems Analysis  
EST 596/ HPH 689 Simulation Models for Environmental and Waste Management  
EST 597/ CEY 597 Waste Management: Systems and Principles  
GEO 520 Glacial Geology  
GEO 524/ MAR 524 Organic Contaminant Hydrology  
GEO 540 Solid Earth Geophysics  
HPH 675/ MAR525 Environment and Public Health  
HPH 676/ MAR 536 Environmental Law and Regulation  
MAR 521 Groundwater Problems

Check the University Registrar (<http://www.stonybrook.edu/registrar/>) or our web page (<http://www.geosciences.stonybrook.edu/>) for details and updates on course offerings, class schedule, as well as information on how to register and pre-register.

## **B Research Requirements**

In addition to the formal course work, the curriculum includes two short-term research projects, minimally 3 credits each (GEO 599) to be taken after admittance to the graduate program. Students must first consult with a faculty member before registering for research credits. If appropriate, students can use part of their normal work as the basis for a research project. However, permission from employer and/or supervisor must be obtained before using work-related data for a research project. It is the student's responsibility to seek academic advice. Some faculty members organize a weekly research seminar to discuss progress with a small group of hydrogeology students. In these seminars, the student benefits from interaction with fellow students and faculty.

Each research project must culminate in a written report. In most cases, the two research projects are on closely related topics or on one and the same topic. For example, it is common to use the first project to review existing literature data (3 credits) and the second project to actively work on solving a problem (3 or 6 credits). In such cases, a brief report is required after the first project and a final report after the second project. The final project will be reviewed by a committee of three. The academic advisor is chairman of the committee and will solicit two additional reviewers. One of the additional reviewers must be a SUNY-Stony Brook faculty member, the second reviewer may be a local expert. For details on the format of the report see section Report Format below.

The committee must receive the final report two weeks before the end of classes in the semester that the research is undertaken. The student will receive an incomplete grade (I) if the report is not received by that deadline. The research project must be completed before the deadline set by the University to change deferred grades. This deadline as well as the last day of classes are on the academic calendar published in the University Graduate Class Schedule.

## **C Final Report Format**

With minor changes, the format for the Final Report is the same as for a thesis, as specified in the Graduate School Guidelines for the Preparation of Thesis/Dissertations ([www.grad.sunysb.edu/t&d.shtml](http://www.grad.sunysb.edu/t&d.shtml)). The changes to the thesis format are:

- 1) Replace “Thesis/Dissertation” with “Final Report” on title page and signatory page.
- 2) On the title page the degree should read: “Master of Science in Geosciences with concentration in Hydrogeology”
- 3) On the signatory page you need three lines with the first line reserved for the advisor. There is no defensive chairperson. The last line is reserved for an outside member. Because the final reports are not submitted to the graduate school, the last line should be omitted.
- 4) A one-page abstract is required but it should simply have a centered heading “Abstract”. Hence, the title and author need not be repeated here.
- 5) Captions for figures should be on the same page as the figure.
- 6) The Table of Contents must include lists of tables and figures.

After your Final Report is accepted, you must submit a bound copy on 25% rag paper. This copy will be deposited in the Geosciences Reading Room. The Department recommends C&H Bookbinding & Embossing (1-800-871-8980) and their email is [chbook@optonline.net](mailto:chbook@optonline.net).

## **II GUIDANCE IN SELECTION OF COURSES**

Many students take only one course per semester. With this in mind, the four required courses are scheduled so that a student should be able to complete these courses within the first four semesters. Students should be aware, however, that GEO514 and GEO526 will be offered every year, while GEO515 and GEO519 are typically offered every other year. Note also that GEO526 is a prerequisite for GEO519. The frequency of the elective courses, category C courses, varies. Category B courses, remedial courses, are offered during the Summer Semester and sometimes during the Fall or Spring Semester.

It is recommended that students draw up a multi-year plan as soon as they enter the Hydrogeology Program. Such a plan should also include two semesters for research projects. Part-time students can complete the program within two to three years only if they are prepared to take 6 credits in course work or research per semester. Enrolling for more than 6 credits per semester is strongly discouraged for part-time students with a full-time job.

## **III COMMON ACADEMIC PROCEDURES**

### **A Application and Admission into Hydrogeology Program**

It is strongly recommended that students apply for admission into the Hydrogeology graduate program in the first semester they take classes. It is important to establish an application file as soon as possible. Please note that only on-line applications are accepted. For detailed information on how to file an online application, visit the department’s website at [www.geosciences.stonybrook.edu](http://www.geosciences.stonybrook.edu). Any required supporting materials, such as letters of recommendation, GRE scores, and transcripts, will be added to the file as they become available

and should be sent directly to: Department of Geosciences, Attn. Ms. Yvonne Barbour, Graduate Program Coordinator (631-632-8554). Please see the department website for complete details.

While assembling the application file, students can transfer up to 12 credits taken while registered in SPD provided that the student is not planning to transfer graduate credits from other schools, see section IIIB.

### **B Registering for Courses through SPD**

Students can take hydrogeology courses before being admitted to the program through the School of Professional Development (SPD) as a Graduate Special Student (GSP) and later transfer the SPD credits to the degree program (see section IIIC). However, if a student is requesting transfer of graduate credits from a school other than Stony Brook then the total number of credits, SPD credits plus outside credits, is limited to 12. For example, transfer of 6 outside credits limits the number of transferable SPD credits to 6.

Registering for hydrogeology courses through SPD is the only way to start earning graduate credits before being admitted to the program, but students should make every effort to complete their application file in their first semester.

### **C Transferring Credits from SPD**

Up to twelve SPD credits may be transferred to the degree program. A student must be admitted to the Hydrogeology Program and file a change-of-major form. The change-of-major card must be signed by the School of Professional Development and by the Chairman of the Geosciences Department.

### **D Transferring Graduate Credits from other Graduate Schools**

A student is allowed to transfer up to 6 graduate credits from another graduate school. For transfer of outside graduate credits, the student is required to complete a separate form and furnish supporting material, such as a course outline, exams, and list of text books. Once this material has been received, the faculty will make a recommendation to the Department Chair. The Chair submits the material to the graduate school for final approval. The appropriate forms can be obtained by contacting Yvonne Barbour.

The recommendation made by the faculty is simply based on a comparison of the level and content of the course compared to the courses in the Hydrogeology Program. If there is sufficient overlap between a course submitted for transfer and a course in this program, the faculty will recommend that the transfer credits will be used as a substitute for the equivalent Category A or C course.

### **E Registering Intent to Graduate**

Students who are planning to graduate must register their intent to graduate by filing for graduation by way of the online Solar system. The deadline for filing for graduation is listed on the academic calendar published in the graduate class schedule. Note that the filing may only be done online via the Solar System. Also note that the intent to graduate is only valid for the semester it is filed in. For example, filing online for graduation in February for a May graduation does not constitute an intent to graduate for the following August graduation. You must file online again for the August graduation award period. Failure to file online could mean an unnecessary, lengthy delay in obtaining your degree.