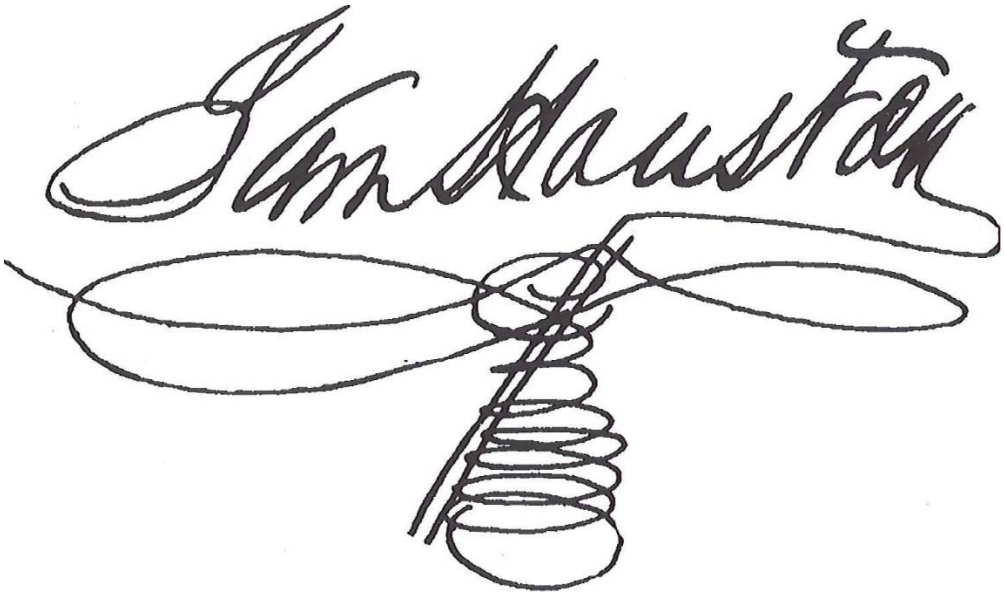
Graduate Program Review and Assessment



Vision with a Purpose

Department of Biological Sciences
SamHoustonStateUniversity

MEMBER The Texas State University System

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DEPARTMENT OFBIOLOGICAL SCIENCES
GRADUATE PROGRAM REVIEW AND ASSESSMENT
COLLEGE OF SCIENCES

The information and documents in the portfolio is for the assessment period Summer 2008 to Spring 2015. Statistical data was provided to the department by the Office of Graduate Students with support from Institutional Effectiveness.

1. Program Profile

a. Mission of Program. *The Department of Biological Sciences is dedicated to the pursuit and dissemination of knowledge and scientific discovery in the life sciences through innovative teaching and research. Our department strives to instill in its students the philosophy of lifelong scholarship, producing scientifically literate members of society who have the knowledge to contribute and compete in a rapidly changing world as they pursue exciting careers in the biological sciences.* This is the Mission of the Department of Biological Sciences and it serves as the umbrella statement for both the Undergraduate and Graduate tracts. **It is recommended** that the Department develops an individual Mission unique to the Graduate program and that they include it in their Graduate Workbook and on their Internet site promoting the Graduate Program.

b. History. Since the first Masters awarded by the Department of Biological Sciences in 1951 there have been an estimated 250 Maters Degrees awarded by the Department of Biological Sciences. The exact number is not known because to date there has been no unified attempt to establish a thorough history/record of our Masters program. This report is the first of its kind for the department and will hopefully establish the benchmark for historical documentation, record keeping, accountability, and measure of student success.

c. Program Demographics.

i. Number of Students. There have been 102 students enrolled in the Biological Sciences Graduate Program since Summer 2008. 52 of the students have graduated with a Masters of Sciences, 17 Students have dropped out of the program, and 33 students are currently enrolled (4 of these students have submitted their thesis and will graduate May 2015). The following tables and graphs highlight the student demographics

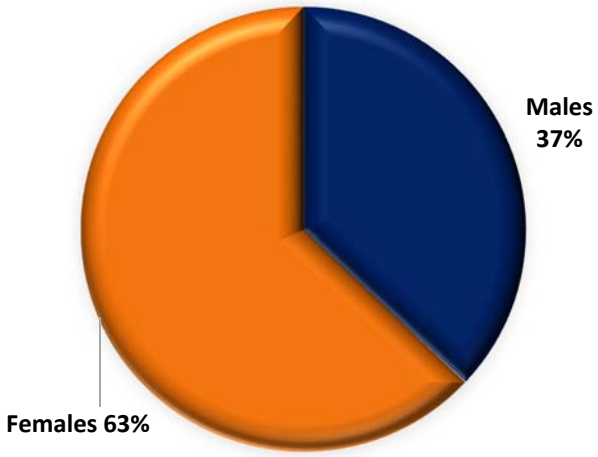
AGE

Average Age of Grads	26
Median Age of Grads	24
Oldest Grad	51
Youngest Grad	21

SEX RATIOS

Sex	**Number**	**Percentage**
Male	38	37%
Female	64	63%

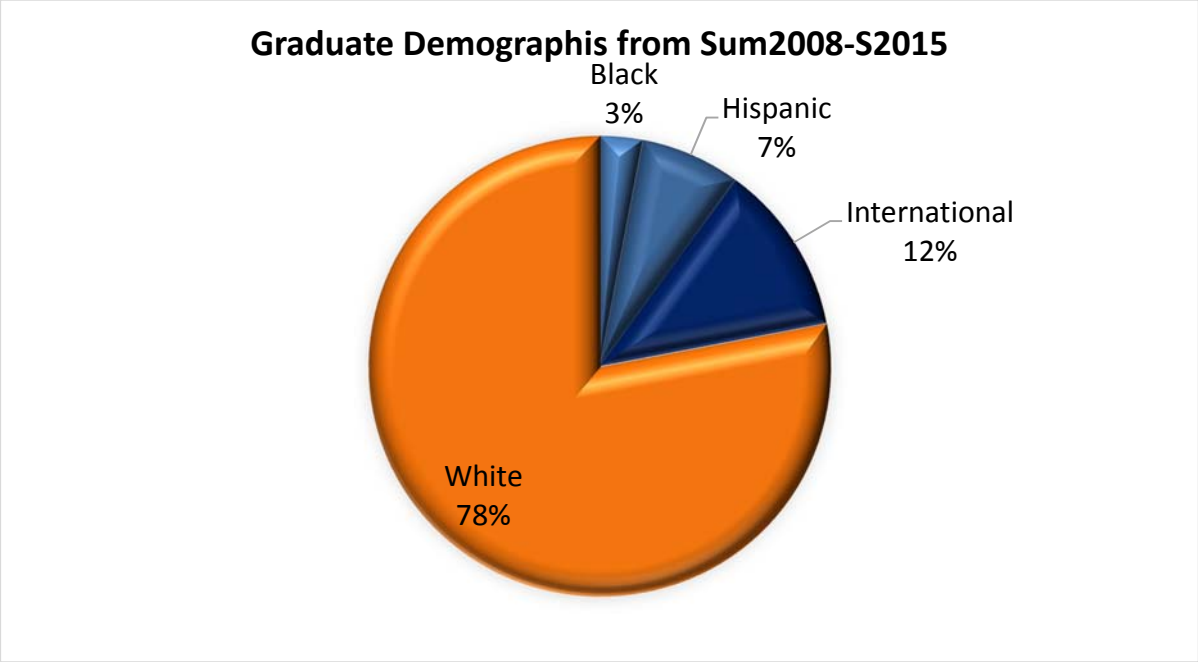
PERCENTAGE FEMALES AND MALES ENROLLED FROM SUM08-S15



RACE

The record of race is incomplete as 12 students left the "Race" category blank on their admissions form, the numbers presented are for 88% of the students.

Race	Number	Percentage
African-American	3	3%
Hispanic	6	7%
International/Multi-race	11	12%
White	70	78%

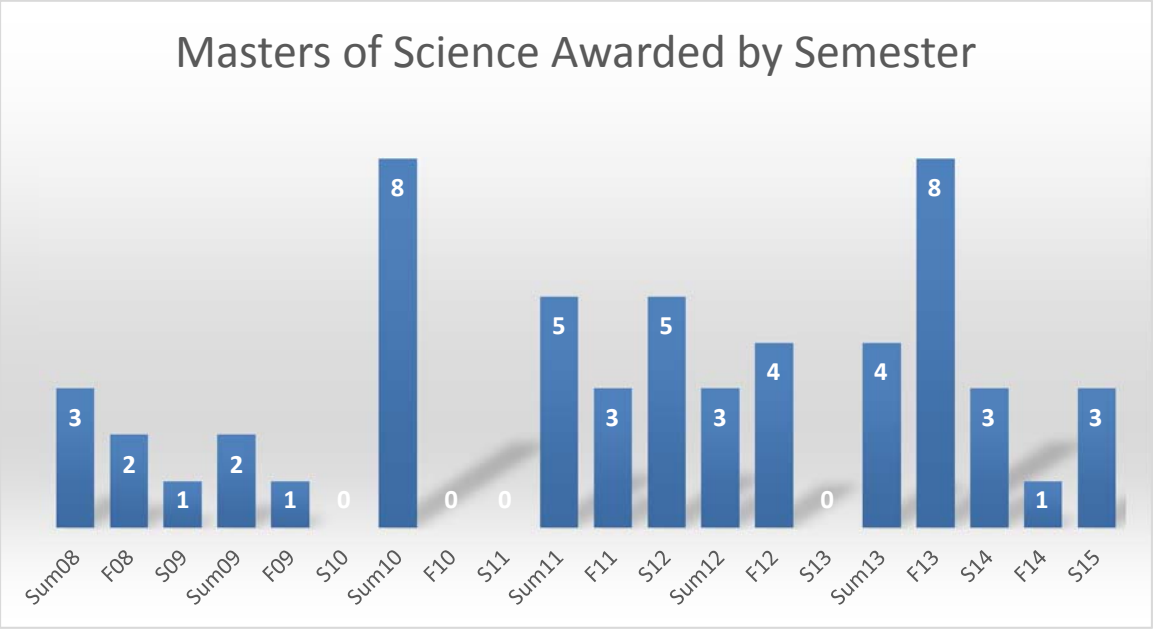


The demographic numbers suggest that the Department of Biological Sciences has done an outstanding job recruiting and mentoring females into the sciences. However, with African Americans constituting 13% of the US population and Hispanics 17% of the US population the Department of Biological Sciences should increase its efforts in minority recruitment.

ii. **Number of Classes.** A total of 21 unique Graduate courses are offered in the Department of Biological Sciences. However, a number of niche classes are offered under the generic class titles BIOL 5380 Advanced Ecology, Advanced Genetics, and BIOL 5394 Special Topics in Graduate Biology. Of the 21 unique courses offered 2 (10%) are Professional Techniques courses, 4 (19%) are Microbiology related courses, and 15 (71%) are Organismal courses. Only one of these courses is required for all

graduate students (BIOL 5200 Professional Aspects of Science, 2 hour credit). A cursory review of the course listed indicates that a number of courses have not been offered in some years due to a lack of faculty or student interest. In addition, some of the courses appear to have overlapping subject matter (ex. BIOL 5310 Classification and Natural History of Plants and BIOL 5350 Plant Evolutionary Biology). It is recommended that the faculty review the courses offered, eliminate any outdated or superfluous courses from the books, provide an equal balance of titled Microbiology courses, and offer unique courses for the number of classes offered under the generic title "Advanced Ecology" (ex. offer "GIS in the Biological Sciences" as a separate titled course).

iii. Number of degrees conferred annually.



This graph shows the number of Masters of Science degrees awarded over the last seven years.

iv. Number of degrees conferred

Since Summer 2008 52 students have officially graduated with a Masters of Science. An additional 4 students have submitted their thesis and will graduate May 2015; this gives a total of 56 students that have completed a Masters of Science from the Department of Biological Sciences over the last seven years. Of the 56 students that completed a Masters of Science 37 (66%) were female students and 19 (24%) were male students.

v. Number of core Faculty

The Department of Biological Sciences has 17 Graduate Faculty. Female faculty members constitute five out of the 17 faculty or 30% of the faculty. Tenured faculty members constitute 14 out of 17 faculty or 82% of the faculty.

Faculty	Sex	Tenured	Major Advisor	Committees	% as Advisor	% of Committees	% All Committees
Bucheli	**F**	**Y**	6	7	11%	13%	23%
***Deaton**	**F**	**N**	2	4	4%	7%	11%
Gaillard	**F**	**Y**	5	7	9%	13%	21%
Neudorf	**F**	**Y**	6	3	11%	5%	16%
T. Cook	**F**	**Y**	6	4	11%	7%	18%
Choudhary	**M**	**Y**	3	7	5%	13%	18%
Hargrave	**M**	**Y**	2	14	4%	25%	29%
Harper	**M**	**Y**	0	3	0%	5%	5%
J. Cook	**M**	**Y**	5	0	9%	0%	9%
Lewis	**M**	**Y**	3	1	5%	2%	7%
Lutterschmidt	**M**	**Y**	9	11	16%	20%	36%
Lynne	**M**	**Y**	2	2	4%	4%	7%
Primm	**M**	**Y**	1	7	2%	13%	14%
Randle	**M**	**Y**	2	13	4%	23%	27%
***Rowe**	**M**	**Y**	0	7	0%	13%	13%
Seeling	**F**	**N**	0	0	0%	0%	0%
Thies	**M**	**Y**	2	13	4%	23%	27%
***Turner**	**M**	**Y**	0	3	0%	5%	5%
Williams	**M**	**Y**	1	6	2%	11%	13%
Wozniak	**M**	**N**	1	4	2%	7%	9%
Total			56				

Table of the Faculty and the number of committee's where they have served as a Major Advisor or as a committee member dating from Summer 2008 to the present. *= Faculty no longer in the Department.

vi. Faculty/Student Ratio

In the last seven years we have had an average of 30 Masters students enrolled per semester. With 17 Graduate Faculty that makes the average Faculty/Student ratio 1.764.

2. Program Administration.

a. Administrative processes.

Daily administration of the Graduate Program in the Biological Sciences is chiefly the responsibility of the Graduate Advisor. The Graduate Advisor is selected through vote by the both the tenured and non-tenured faculty. The Graduate Advisor serves a three-year term, after the three-year term the Graduate Advisor can step down or choose to continue to serve as the Graduate Advisor with faculty approval. The Graduate Advisor serves as the Chair of the Graduate Committee. The Graduate Committee consists of 5 Graduate Faculty that are selected by the Chair. Graduate Committee members serve a two-year term. Half the members serve on alternating two-year terms so that the other half of the faculty is familiar with the Graduate Program's Policies.

Responsibilities of the Graduate Advisor include:

- End of the Semester progress review of each of the Graduate Students. This is to ensure that the students are adhering to the suggested program timeline.
- Communicates with prospective graduate students, answering questions regarding admission, TA stipend, and research focus of faculty members.
- Works with the Lab Coordinators and the Biology Administrative Assistant to assign TA's for the various labs taught.
- Signs various Graduate Studies and College of Sciences paper work for the students such as approving Thesis Hours and Undergraduate credit hours.
- Manages incoming applications for the Graduate Program and for TA stipend.
- Manages and Updates the Alumni list of our former Masters of Sciences Graduates.

Responsibilities of the Graduate Committee include:

- Reviewing and voting on Graduate applications.
- Reviewing and voting on TA applications.
- Vote on Graduate student requests such as a petition to transfer credits.
- Continuously review the Graduate Student Workbook for policy improvements or addendums.

b. **Administrative policies.** What are the academic, structural and administrative barriers in your unit? How are you reducing them?

No barriers have been identified.

c. Mentoring and Academic Advising.

Graduate Advisors are not assigned. Because ours is a Research Thesis based Masters of Science it is the responsibility of the Graduate Student to choose a faculty member from the Department of Biological Sciences at SHSU as a Major Advisor **by the end of the first semester** (although it is advised that the prospective student select a Major Advisor before they accept a position in the Program) to guide him or her in their graduate program. The Major Advisor will serve as the chairperson of their Advisory Committee and will be responsible for advising the student on course choices and research efforts. The Major Advisor's or the Graduate Coordinator's signature will be required on all official paperwork. Per University policy, the Major Advisor must have Master's level graduate faculty status or higher. Should the student's Major Advisor change; a revised Advisor-Student Agreement form (see Appendix) should be submitted to the Graduate Coordinator. The student must notify the former Major Advisor of this change, and permission must be granted by the former advisor for the student to use any intellectual property belonging to the former advisor.

Of the 17 students that dropped out of the program in the last seven years, four of them did not have a faculty advisor**.** In order to prevent the loss of graduates due to their inability to identify a Faculty advisor**, it is recommended that the Graduate Advisor communicate closely with prospective students to help them identify an advisor before they accept a position in the Graduate Program.**

Advisory Committee. With the assistance of the Major Advisor, the student will select a minimum of two other faculty members from the Department of Biological Sciences at SHSU to comprise their Advisory Committee. Exceptions to this policy may be granted upon petition to the Graduate Committee. The Graduate Committee may allow one of the three Advisory Committee members to be outside the Department of Biological Sciences at SHSU; however, that person must be able to contribute significantly to the thesis project. Exceptions will be granted on a case-by-case basis and the decision of the Graduate Committee is final. A fourth member of the Advisory Committee may be selected if desired; this faculty member may be outside of the department or University. Committee members outside of the University must be approved by the Dean of Graduate Studies (see the Office of Graduate Studies website to complete a form to request approval). Per University policy, any Advisory Committee members must have Associate level graduate faculty status or higher. The Advisory Committee should be selected **by the end of the first semester**. It is the role of the Advisory Committee, working in concert with the student, to establish an appropriate course sequence and plan of research to attain the student's goals. The student must meet with their Advisory Committee annually and prepare a progress report for committee approval. A Record of Annual Committee Meeting form should be submitted to the Graduate Coordinator following each meeting. Should the student's Advisory Committee change; a revised Advisory Committee form should be submitted to the Graduate Coordinator.

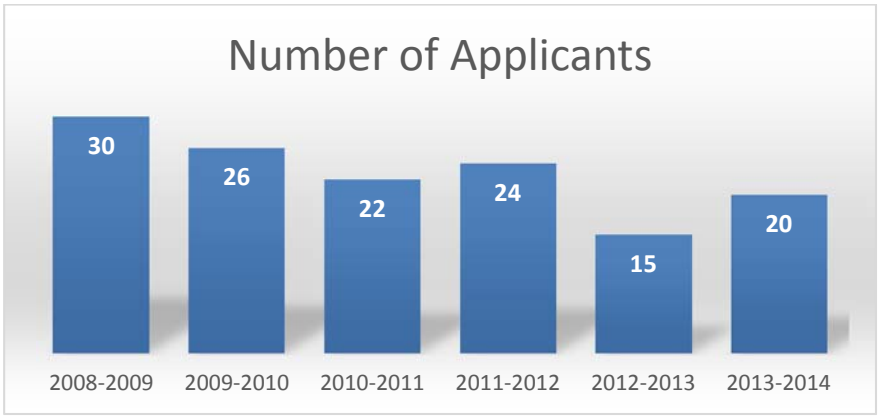
3. Curriculum

- The description of curriculum is outlined in the Graduate Workbook (Appendix B).
- A content comparison and duration comparison with accrediting standards and peer and aspiration institutions has not been initiated.
- **Comprehensive Exam.** All MS degree candidates must pass an oral Comprehensive Exam over the graduate course work of their degree program. The Comprehensive Exam will be administered by the Comprehensive Examination Committee, which is composed of the students Advisory Committee. Students must submit the Comprehensive Examination Committee Form to the Graduate Coordinator by the beginning of the semester in which the exam is scheduled. The exam should be completed no later than the third semester in the graduate program.

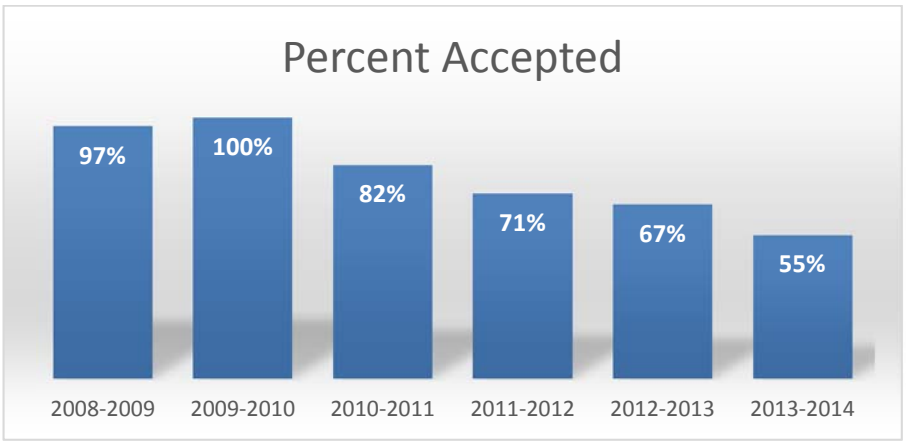
4. STUDENTS

a. **Admission criteria.** For regular admission to the graduate program, applicants must have a GRE score and undergraduate GPA in concordance with the following formula: {[(200*GPA) Averaged % ranking] > 300]}. For a complete description of the Admission see the Graduate Workbook.

b. Number of Applicants.



c. Percent Applicants accepted:



d. **Program demographics.** Program Demographics are in section 1c.

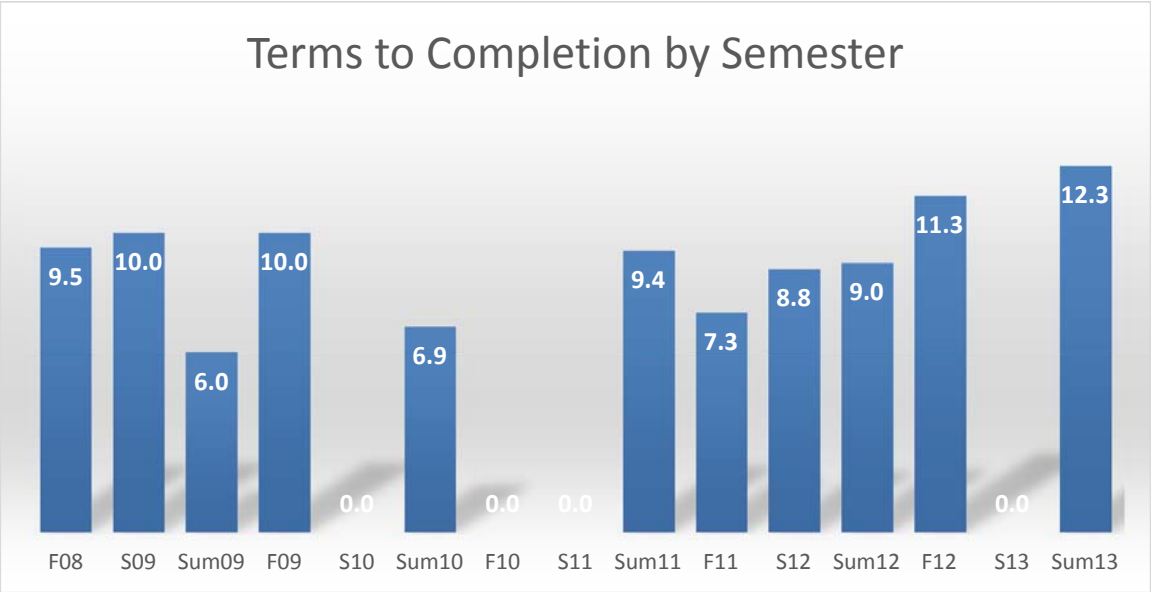
e. **Percentage of full-time students with financial support.** Currently we have 34 students enrolled and 23 or 68% are funded. A Full time Teaching Assistantship funds nineteen students and the other 4 students are funded with a half-time TA position and halftime faculty grant.

f. **Financial Support**. Teaching and Research assistantships are funded at $13005 for 9 months or two semesters (Fall and Spring). The College of Science provides

the support for 21 TA positions. Currently, we do not have departmental funds to provide the graduate students financial support during the summer.

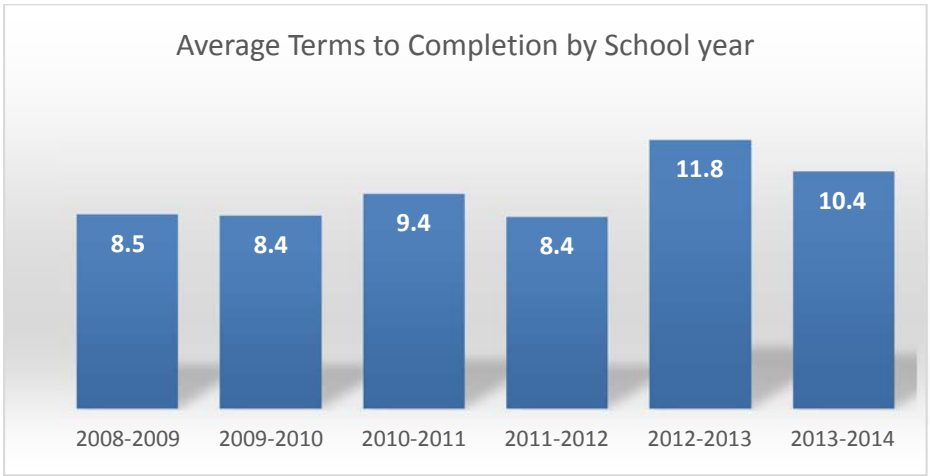
g. **Graduation rate.** From Summer 2008 to Spring 2015 56 students graduated with a Masters and 17 students dropped out of the Program. This is a Graduation rate of 77%. Of the 17 drop outs 4 did not have an advisor, 5 passed there orals but never completed a thesis, 5 were released from the program due to failing grades and 3 left the program to pursue an alternative career.

h. **Time to completion.**



Graph indicates the average number of semesters it took to complete the Masters program for the students graduating that semester.

i. **Average Terms to Completion by School year.**



j. **Employment profile upon graduation (i.e. employment or further education/training).** Of the 56 students that graduated with a Masters between Summer 2008 and Fall 2014, 48 or 86% are employed or enrolled in further education/training. From the 48 that are employed or in school, 40, or 72%, are working within a biologically related field.

i. Two Graduates have gone on to receive a Ph. D. in Biology
ii. Twelve Graduates are enrolled in a Ph. D. Program
iii. Four Graduates are enrolled in a Medical Program
iv. Four Graduates are High School biology Teachers
v. Two Graduates are Adjunct faculty at a University
vi. Four Graduates are Adjunct faculty at a Community College
vii. Eight are Employed at an Environmental Company/Agency
viii. Four Graduates are employed by a Laboratory
ix. Six Graduates are employed in non-Biology related fields
x. Ten Graduates are currently on the market or have left the market place to concentrate on family.

5. **Resources and Finances.**

a. Details on assistantships and scholarships are in the Graduate Workbook.

6. **Assessment Efforts.** To date no assessment efforts have been conducted, only recently did we begin accounting for the location of our former graduate students.

7. PROGRAM RECOMMENDATIONS AS DETERMINED BY THE GRADUATE COMMITTEE:

1. Update the Internet site
    a. The Graduate Handbook on-line is from 2012, update with new 2015 Handbook.
    b. Remove all references to the Masters of Arts Program.
    c. Include an address page for our current graduate students.
2. Develop a Mission Statement for the Graduate Program.
3. Develop a strategy for recruitment.
4. Develop an assessment tool to gauge the satisfaction of former graduates
5. Develop a strategy for revitalizing the Masters of Arts in Biology.
6. In order to reduce drop out rate the Graduate Advisor should communicate closely with prospective students to help them identify an advisor before they accept a position in the Graduate Program.
7. Continue to expand the Alumni database.
8. Further evaluate the curriculum and courses offered.
9. Lobby the administration for summer salaries for Graduate students.

8. Outside Program Review: Masters of Science, Department of Biological Science, Sam Houston State University

Dr. Jake Schaefer, Professor,
Department of Biological Sciences
University of Southern Mississippi

Overview – The Department of Biological Sciences at Sam Houston State University has been offering graduate degrees in Biological Sciences since 1951. The department currently offers MS and MA options with the majority of students graduating with a MS. There are currently 17 faculty and, on average, 30 active graduate students in the program. The faculty of the department have strengths in the areas of ecology, evolutionary biology, and cell and microbiology. There are a number of research active faculty that are prominent nationally in their respective fields. It is clear that the faculty are well qualified and students receive good training in the program. This is evidenced by the majority of graduates remaining in the field after graduation and entering professional school, Ph.D. programs or the job market.

In the last seven years, 52 students have received MS degrees from the department. The program averages 30 graduate students, less than two students per faculty member. Some faculty maintain larger laboratories and the number of graduate students mentored by individual faculty since 2007 ranges from 0 to 9. The variation likely reflects a variety of constraints including individual faculty time and discipline specific infrastructure. Most of the students in the program are supported on teaching assistantships (22 lines currently available) that require teaching of 3 or 4 laboratory sections and full time enrollment status. A small number of students are supported on research assistantships for faculty that have received extramural funding. Students must select a faculty mentor and develop a research prospectus that is presented to an advisory committee within the first year. Each year, advisors submit a progress report for each student to the graduate committee. The average time to complete the MS degree is 3-4 years (8-12 terms) which is something the department may want to consider trying to reduce (see comments below on graduate student time constraints). Faster time to degree completion will increase the number of graduates without additional resources. Student retention and success rates are good, the department self-study report indicates students not finding advisors and poor grades are the most common reason for students leaving.

There was a clear desire from faculty and administrators to grow the program (increase the number of graduate students enrolled). A larger program will increase research productivity and allow for a more diverse offering of graduate courses. The limitations to growing the program seem to be faculty time to mentor students, infrastructure to support more faculty and student research, and financial (stipends and more competitive packages for graduate student recruitment).

Listed below are some observations and recommendations based on literature (current graduate student handbook), reports (Department of Biological Sciences Self-Study Report for the Graduate Program), and my discussions with students, faculty and administrators in April 2015. Most of my recommendations are focused around ways for the faculty to better define their vision of the program and what they want students to get out of it. Discussion of the program mission should also address how much the department and administration want to prioritize and support research productivity. There are recommendations for recruiting students which will allow the program to grow (if that is desired), increase diversity, and bring more high quality students into the program. While there are a variety of means to these ends, I firmly believe there is potential for a larger and more active graduate program supported by greater research productivity from faculty.

1. **Develop a mission statement for the graduate program –** There is currently a single mission statement for the Department of Biological Sciences (undergraduate and graduate). It would be beneficial for the faculty to embrace the diverse faculty research expertise and student professional goals in defining program mission and objectives. One result of the current less-specific mission is that the department has a single MS track (the MA track is currently not used, see below) that all students follow. A well-structured and inclusive mission statement will facilitate program changes that will be beneficial to faculty and students in a variety of subdisciplines.

2. **Consider emphasis areas within the MS degree** – Biology is a discipline with disparate subdisciplines (e.g. behavior, genomics, endocrinology and ecology). As a department of 17 faculty charged with undergraduate instruction of "biology", it is not at all surprising that the faculty have diverse research interests. There are clear core areas of strength in the department that should be recognized. The department may want to consider these core areas as formal emphases or tracks for graduate education. Emphasis areas allow faculty in specific disciplines to design admission requirements, curriculum and program requirements to better serve students. Additionally, formal emphases will help the department identify areas of strength or areas where the department and administration want to see future growth. The department should consider ways to ensure new emphases align with broader university initiatives (e.g. health sciences) to maximize available resources.

3. **Consider utilizing the existing MA track or add a non-thesis option** – While some of the graduate students in the department are destined for a career in research, some view

the MS degree as terminal. The department should carefully consider the needs of these students and how they will be best served. For some students, a graduate degree based on formal classroom instruction and laboratory and field techniques is most appropriate. For these students, the department may want to consider a non-thesis option. For students interested in a career in research, laboratory experience and training in the science enterprise is more important. Currently, both groups of students are in a single degree plan that creates clear conflicts between curriculum requirements and research productivity (see below). A non-thesis option may serve existing students well, and if combined with appropriate emphasis areas could prove to be an effective recruitment tool.

Graduate students in non-thesis tracks will be focused on classroom learning and may grow the program without additional strain on existing research infrastructure. In addition to generating revenue, this would allow for a wider variety of graduate course offerings. If the broader mission of the program is research, the department can direct resources to reflect this. For example, assistantships can be prioritized for students in the research tracks.

4. **Review graduate student time constraints** - Graduate students in the Department of Biological Sciences have demands on their time that reduce time allocated to research. This not only reduces student research productivity but increases the time to project completion, delaying graduation and reducing the number of graduates the department produces. Students that are supported on assistantships typically teach 3 or 4 laboratory sections and take two formal classes. In speaking with students, these two activities can take well over 40 hours a week. Assistantships in comparable programs are for 0.5 FTE, usually translating to 20 hours a week. If additional resources can be identified for assistantships, the department should consider not only more lines but also reducing the instructional loads of existing lines.

   Graduate student research productivity can also be increased for students by having them enroll in research hours. Research hours can take the form of a techniques course, prospectus development course, or simply fulfilling research objectives related to a thesis project. At most institutions that have similar research hours, the faculty mentor serves as the instructor of record. This could have two direct benefits for research productivity at Sam Houston. First, students would get course credit for research productivity towards their project. Second, faculty would get instructional credit for mentoring graduate students. This could culminate in a course release for faculty

mentoring a large number of students. Ultimately, the department and administration has to define how much it values and wants to incentivize research productivity of faculty and graduate students.

5. **Recruiting initiatives -** The Department of Biological Sciences recruits heavily from the resident undergraduate student population. While the program has been successful, growth of the program or increased productivity could be achieved through successful recruitment initiatives. Larger applicant pools to the department will allow for selection of higher quality students or students that are more focused on specific career goals (i.e. well suited to defined emphases). One positive trend is the decline in the percentage of applicants accepted (data in department self study report). Acceptance rates were 80-100% in 2008-2010 and dropped to 55% in 2013. The department may want to consider setting a goal for the number of applicants to the program. As the number of applicants increases, the acceptance rate will decline as the quality of accepted students increases. Once faculty decide on a mission statement, I would suggest a "rebranding" of the department that would include development of recruitment and promotional materials. The website should be updated to highlight the mission statement, the strengths of faculty research programs, and the careers pursued by some of the most successful graduates. Similar material can be used to develop recruiting brochures for direct mail to potential students. These promotional materials should make it clear what a graduate degree in Biological Sciences from Sam Houston will do for students professionally. The implementation of specific emphases within the program will aid in recruitment alone. For example, students who want a career in a biomedical field are more likely to apply to a program with an appropriate emphasis.

   Many undergraduate students learn about graduate programs from visiting seminar speakers. The department should encourage willing faculty to give research seminars at universities in the region. A list of research active faculty could be disseminated to appropriate universities. Because many seminar programs have restricted travel budgets, the department could consider paying faculty travel expenses in exchange for the faculty member advertising the program at the end of the seminar.
   The department should consider direct mailing and e-mailing potential students with high standardized test scores. Databases with contact information can be purchased from testing agencies, usually for $0.30-0.40 per contact. The department can design a query to target quality students (including additional students from underrepresented groups) in the region and mail promotional material to them directly.

6. **Graduate student support -** While graduate students in the Department of Biological Sciences are excited about the program, there are some areas (mostly financial) where they feel underappreciated. Changes in this area may increase student retention, productivity and recruitment.
    a. Students are not currently offered a tuition waiver. The department might consider studying the level of student support (stipends and potential tuition scholarships together) at competing institutions in the region. Given that tuition payments are substantial for graduate students with no other support, the department might consider options for automatic enrollment in tuition payment plans or shifting the typical academic year payment schedule for graduate students. A number of students commented on the financial hardships encountered when their tuition bill is received before their first stipend payment.
    b. Sam Houston State University has a strong tradition of supporting undergraduate research. As the university has moved to encourage more graduate research, some of the internal funding mechanisms remain focused on undergraduate research. In some cases this may simply be due to poor communication and graduate students do not know they are eligible for awards that are advertised to undergraduates. The department may want to review the availability of research and travel awards at both the undergraduate and graduate level. More broadly, the department and administration should discuss how much they value graduate student research and then ask if the support for it is appropriate.

7. **Time to graduation and student mentoring -** The most common complaint from graduate students was that there is sometimes a delay in getting feedback from advisors. Students have clear deadlines (with consequences) for meeting certain degree deadlines and timely feedback from advisors is important for students to make progress. The faculty teaching loads at Sam Houston are high meaning faculty time is often a limiting factor. The obvious solution is to implement a mechanisms to get faculty credit for mentoring graduate students. As discussed earlier, research hours or a formal "prospectus development" course under the direction of the advisor would formalize student time to completing degree milestones and faculty credit for mentoring graduate students. Here again, the department and university need to decide how much they want to incentivize faculty and graduate student research productivity.

8. **Graduate course offerings -** With a faculty and student body of this size, there are a limited number of graduate courses that can be offered. While students appreciate the instruction they receive, they expressed a desire to focus coursework on their areas of interest. Students often enroll in courses outside of their area of expertise simply to fulfill the required course load for assistantships. The department should consider whether these students would be better served working with advisors on research goals. Additionally, the department should consider whether a student interested in a career in research is best served enrolling in two formal (in class) courses each semester. Many students noted that teaching duties and their own required coursework took all of their time. The message sent was that research was a low priority, often delayed until later in the program.

9. **Faculty vision of the program –** My discussion with faculty revolved around two issues: 1) curricular requirements for the program, and 2) size of the program. The faculty do not all agree on what the requirements should be for admission and completion of the degree. I think this issue will resolve itself with honest discussion of the program mission and the formation of emphasis areas. It is not surprising that faculty with disparate expertise and interests have different views of what constitutes graduate education. This diversity of ideas should be made into a strength of the department. Some faculty commented that they would like to see the program grow, but that they did not feel they had the infrastructure or time to mentor more students. Growing the program to broaden course offerings could be accomplished, in part, through populating a non-thesis option. Growing the research intensive (thesis) portion of the program may require additional resources (assistantship lines), faculty lines and infrastructure (depending on the nature of the research). Some gains might be made in this area by giving faculty instructional credit for mentoring graduate students - some faculty might be willing to mentor more students if this meant reduction of teaching load.

Summary – The faculty in the Department of Biological Sciences are to be commended for the quality of the graduate program at Sam Houston State University. There is a clear commitment to providing quality instruction at the graduate level. Some faculty have developed research that is programmatic with tightly integrated student involvement. A common theme in talking with various stakeholders is that time is the largest limiting factor. Faculty are limited in the amount of time they can allocate to mentoring graduate students and graduate students are limited in how much time they can spend on their research. The faculty should discuss how much graduate education in the program should be based on formal course work vs. developing and implementing independent research. It may be that the answer here differs for different groups of students, leading to greater use of the MA

(or a non-thesis MS) degree option. In my opinion, the program as currently implemented relies too heavily on formal coursework. Students that do want to do engage in active research may take longer to graduate or be forced to scale back their research due to time constraints. Limited course offerings also result in students being enrolled in courses outside of their area interest. While some might argue that there a molecular biology student enrolling in a graduate course in ecology will gain new insights, the reality is that student may benefit more from experience or training in a laboratory setting under the direction of their mentor. Given the breadth of subdisciplines within biology, students must specialize in their graduate years if they are to compete as professionals.

APPENDIX A. Alumni list of Graduate students from Summer 2008 to Spring 2015.

Student	Race	Sex	Semester	Year	Title	Thesis Director	Current Location
Archambeault, Alan	W	M	Spring	2012	Population Structure of Lucilia Mexicana Macquart 1843 (Diptera: Calliphoridae) In Texas With A Discussion of Colonization and Genetics	**Bucheli**	**Portland, Maine**
Bartelt, Amber	W	F			**Dropped Out**	**T. Cook**	
Belen-Rivera, Jessica		F	Summer	2008	Biochemical Analysis of an Axonemal Cyclic GMP- Dependent Protein Kinase (PKG) Complex In Chlamydomonas Reinhardtii	**Gaillard**	**Cairo, Egypt**
Boesen, Chris	W	M	Fall	2011	A Survey and Comparison of Helminth Community Structure in Three East Texas Dove Species	**T. Cook**	**Sioux Falls, South Dakota**

Bogrand, Ashley	W	F	Summer	2013	Predator Recognition and Nest Defense by Carolina Wrens (Thryothorus ludovicianus) in Urban and Rural Environments: Does Experience Matter?	**Neudorf**	**Employeed; Field Technician, Western EcoSystems Technology, Amarillo Texas**
Bonge, Sam	W	M	Fall	2011	Comparative Peptide Profiles of Sympatric Anurans Hylaversicolor (Hylidae) and Lithobates Clamitans (Ranodae): An Anti-Predator Hypothesis	**Lutterschmidt**	**Employeed: Ameriprise Finacial, Oklahoma City**
Brashear, Vanessa	W	F	Fall	2014	Eugregarine Infection Patterns of Damselfly Naiads in the Southwestern Piney Woods, Texas	**T. Cook**	**Employeed; Lone Star College-Montgomery**
Brodrick, Mallory	W	F	Summer	2010	Effect Of Prescribed Burning For Management of the Red-Cockaded Woodpecker on the Avian Community in the Sam Houston National Forest	**Neudorf**	**Employeed; Texas Parks and Wildlife, Game Warden, Lubbock Texas**

Buchanan, Alyson	W	F	Fall	2013	Carolina Wren (Thryothorus Ludovicianus) Nestling Sex Ratio Variation and Survival In Urban and Rural Ecosystems	**Neudorf**	**Springfield, Colorado**
Buchnman, Anna		F	Summer	2008	Seasonal Activity Patterns, Baseline Population Genetics, and Anaylsis of Putative Hybridization in Three-Toed Box Turtles (Terrapene Carolina Triunguis)	**Lutterschmidt**	**Employeed; Postdoctoral Scholar CALTECH**
Campbell, Tim	W	M	Summer	2010	Genus Level Assessment of The Environmental Tolerances of Southern African Rodents with Implications for Plio-Pleistoncene Paleoenvironmental Reconstructions	**Lewis**	**Ph.D. Program Texas A&M**
Carris, Emelida Shirley		F	Spring	2009	A Comparison Of Leaf Litter Ants in (Hymenoptera: Formicidae) The Pine Forests Of North and Central America	**J. Cook**	**Employeed: Houston ISD**

Cureton, James	W	M	Spring	2010	A Future without Box Turtles? Investigating the Impact of Urbanization on the Population Genetics of Ornate Box Turtles, *Terrapene ornata*.	**Deaton**	**Ph.D. Program University of Oklahmoa**
de Moya, Robert	W	M			**Dropped Out**	**Bucheli**	
Estill, Katy	W	F	Summer	2012	Morphological Variation Among Domestic Rabbit Breeds(Oryctolagus Cuniculus) With a Comparison of Wild Stock	**Thies**	**Ph. D. Program University of Askansas**
Garner, Alison	W	F	Summer	2010	Genome Analysis of Salmonella Servovars: A Step Towards understanding Differences in Pathogenicity and Host-Specificty	**Lynne**	**Employeed; Wharton Community College**
Gary, Kaitlen	W	F	Fall	2013	Land Use Effects On Ecosystem Structure and Function in Low Gradient Streams of Southeast Texas	**Hargrave**	**Employeed; Texas Research Institute for Environmental Studies**

Goessling, Jeff	W	M	Summer	2011	Bold Boas and Enduring Endemics: A Multi-Scale Approach to Understanding the Impacts of the Invasive Boa Constrictor on the Endemic Reptiles of Aruba	**Lutterschmidt**	**Ph.D. Program Auburn**
Haarmann, Daniel	W	M			**Dropped Out**	**Lynne**	
Hamontree, Sam	W	M			**Dropped Out**	**Hargrave**	
Hardcastle, Terah	Hi	F	Spring	2012	Characterization of Programmed Cell Death in the Unicellular Green Alga, Chlamydomonas Reinhardtii	**Gaillard**	**Employeed; Quality Assurance Coordinator at Colorado Cancer Research Program**
Hardcastle, Travis	W	M	Summer	2013	Characterization of the Effects of 4-Hydroxyacetophenone on Clamdymonas reinhardtii Motility	**Gaillard**	**Employeed; Associate Scientist Dharmacon Inc.; Denver, Colorado**

Hawkins, Angela	W	F	Summer	2010	Subspecific Classification Within Phoradendron Serotinum (Viscaceae): Development of Microsatellite Markers For Assessment of Population Genetic Structure	**Randle**	**Ph.D. Program Texas A&M**
Hayslip, Casey	W	M	Fall	2013	A Biochemical Analysis of the Quorum Sensing-Active Compounds Secreted By Chlamydomonas Reinhardtii Involving the Las-R Quorum Pathway in Pseudomonas Aeruginosa	**Gaillard**	**Employeed; Pharmacy Technician Huntsville Memorial**
Hernandez, Diana	HI	F			**Dropped Out**	**J. Cook**	
Keith, Sarah	W	F	Fall	2008	Vegetation Analysis and Floristic Checklist of Lake Houston State Park	**Williams**	**Employeed; Lone Star State College, Spring ISD**
Kocurek, Travis	W	M			**Dropped Out**	**None**	
Kroll, Chris	W	M			**Dropped Out**	**None**	
Leggett, David	W	M			**Dropped Out**	**Williams**	

Lewis, Michelle	W	F	Fall	2013	Statistical Biodiversity: Analyses of Carrion Insects of the Southeast Texas Applied Forensic Science Facility as Function of Abiotic and Factors	**Bucheli**	**Employeed; Sam Houston State University; ERP Analyst**
Lewis, Rick	W	M	Spring	2012	The Effects of Fluctuating Asymmetry on Female Choise and Sperm Quality in the Largerspring Gambusia, (Gambusia Geiseri)	**Gaillard**	**Ph. D. Program Sam Houston State University, Criminal Justice**
Lin, Lin	Int	F	Summer	2010	The Role of CtrA In Rhodobacter Sphaeroidaes 2.4.1	**Choudhary**	**Ph. D. Program Max Planck Institute**
Lindgren, Natalie	W	F	Fall	2012	A Descriptive yearlong Survey of the Insect Biodiversity Associated with Human Decomposition for the Pineywoods Ecoregion of Texas, New discoveries, and complimentary Research on Decomposition	**Bucheli**	**Studying Photography at SHSU**

Mardock, Mallory Wilson	W	F	Fall	2013	A Survey of the Gregarine Fauna of Ischnura (Zygoptera: Coenagrionidae) Across Texas Ecoregions	**T. Cook**	**Employeed: Environmental Consulting Firm, Woodlands**
Martin, Rachel	W	F	Summer	2010	Repeated Matings and Male Reproductive Success: A Test of the Paternity Assurance Hypothesis	**Deaton**	**Studying Nutrition at Texas A&M**
Martin, Samantha	W	F	Fall	2013	An Investigation of Assemblage Structure and Individual Development of Fishes as Influenced By An Urbanization Gradient	**Lutterschmidt**	**Mora, Nex Mexico**
McCain, Shelly	W	F	Summer	2013	Behavioral Sensitivity to Salinity and Osmoregulatory Responses of the Aquativ Salamander, Amphiuma Tridactylum	**Lutterschmidt**	**Ph. D. Program University of Alabama**

McCann, Jamie	W	M	Summer	2012	Population Genetic Structure of Tamarix Chinensis (Tamaricaceae): The Rio Grande as a Barrier to Gene Flow and Multiple Introductions of A Non-Native Invasive Species	**Randle**	**Ph.D. Program University of Vienna**
Miller, Melissa	W	F	Fall	2009	Comparative Physiological Ecology Of Cutaneous Water Loss in Two Sympatric Congeneric Pitvipers[1]	**Lutterschmidt**	**Ph.D. Program Auburn**
Morgan, Ashley	W	F	Fall	2011	Host Use and Infection of Gregarines Parasitizing *Calopteryx* sp. In the Southeastern United States	**T. Cook**	**Employeed; Texas Research Institute for Environmental Studies**
Myagmarjav, Bat	Int	M			**Dropped Out**	**Choudhary**	
Olonisakin, Opeyemi	Int	F			**Dropped Out**	**Primm**	
Pearman, Kelsey	W	F	Fall	2013	A Survey of Medium and Large Mammals in the Big Thicket National Preserve Using Hair Snares and Camera Traps	**Thies**	**Employeed; Copperhead Environmental Service, Kentucky**

Peek, Craig	W	M			**Dropped Out**	**None**	
Peters, Annie	W	F	Summer	2011	Evolutionary Analysis of Duplicate Genes in Rhodobacter Sphaeroides 2.4.1	**Choudhary**	**Professional School at Texas A&M, Regenerative Medicine for Large Animals**
Pierrel, Laurie		F	Summer	2008	Daily Activities and Temperature Tolerances of Dasymutilla Species (Hymenoptera: Mutillidae), With Cladistical Comparisons	**J. Cook**	**Houston, Texas**
Powell, Keri Kershaw	W	F	Spring	2014	A Comparative Analysis of the Potential for Caenorhaditis Elegans to Model Infection Using Several Samonella Serovars	**Lynne**	**Houston, Texas**
Prouty, Anne-Marie	W	F	Summer	2009	Predation of Artificial Songbird Nest in Two Ecosystems in East Texas	**Neudorf**	**Employeed; Sam Houston State University, Lecturer Department of Biological Sciences**

Quiroz, Guadalupe	Hi	F	Fall	2008	Responses of Carolina Wren Nestlings to Parental Alarm Calls	**Neudorf**	**Employeed; Texas Comission on Environmental Quality**
Ragan, Niki	W	F	Spring	2014	Salt Marsh Pond Classification and Fish Assemblage Structure at the Aransas Wildlife Refuge	**Wozniak**	**Employeed; Hageman Reserve, Sulphur Bluff Texas**
Raghavendra, Rekha		F	Summer	2009	Phenotype Changes in Mycobacteria Associated With Lipid-Based In Vivo Growth	**Primm**	**Case Western Reserve University School of Medicine**
Rahlwes, Brent	W	M	Fall	2012	A Phylogenetic Analysis of North American Mordellini and Conaliiini (Coleoptera; Mordellidae)	**Bucheli**	**Masters Candidate Sam Houston State University GIS**
Randall, Claire	W	F	Spring	2015	The structure and function of male Carolina Wren (Thryothorus ludovicianus) song in urban and rural habitats	**Neudorf**	**Houston, Texas**
Reeve, Joseph	W	M	Fall	2012	Isotopic Variation in Gerbilliscus (Rodentia; Muridae; Gerbillinae) Molars From Koanaka Hills, Botswana	**Lewis**	**Employeed; Lone Star College - North Harris**

Robinson, Heather	W	F	Summer	2010	Environmental Factors Influence Endohelminth Community Structure in the Western Mosquitofish, Gambusia Affins	**T. Cook**	**Ph. D. Program Oklahoma State University**
Rosillo, Araceli	W	F			**Dropped Out**	**Bucheli**	
Sanchez, Jessica	Hi	F	Spring	2012	Reproductive Life History as a Predictor of Fish Community Structure	**Hargrave**	**Ph. D. Program Florida International University**
Saxton, Tyler	W	M	Summer	2011	A Biological and Comparative Investigation of Evaportative Water Loss Rate and Desiccation Tolerance Among Five Congeneric Toads	**Lutterschmidt**	**Employeed: Upper School Faculty at Rabun Gap-Nacoochee School**
Sculley, Julie	W	F			**Dropped Out**	**Lewis**	
Sisson, Melissa	W	F	Summer	2013	The systematics of North American *Exaeretia* with notes on spiniform setae	**Bucheli**	**Ph. D. Program North Dakota**

Staicer, Stephanie	W	F	Fall	2013	Spatial and Temporal Patterns of Eugregarine Infections in Damselflies in Four Texas Ecoregions	**T. Cook**	**Employeed; Katy ISD**
Stephens, Chas	Hi	M	Summer	2011	The Misues of Model I Regression in Biology and its Potential Influence on Data Interpretation	**Lutterschmidt**	**Employeed; Sam Houston State University, Data Analyst/Program Manager**
Stoops, Stacy	W	F			**Dropped Out**	**Deaton**	
Sublett, Clayton	W	M	Spring	2015	A Comprehensive Revision of the Genus *Metaparia* Crotch, 1873, and Description of a New Genus	**J. Cook**	**Medical Technician**
Thornton, Katrina	W	F			**Dropped Out**	**Gaillard**	
Tivador, Ed	W	M	Ausust	2011	Species- Specific Differences of Thermal Preferences of Two Sympatric North American Pit Vipers (Agkistrodon)	**Lutterschmidt**	**Employeed: Instructor Kaplan**

Trahan, Cheramie	White	F	Summer	2012	The Evolution of Accessory Chromosones in Bacteria: Role of Horizontal Gene Transfer and Evolutionary Constraint	**Choudhary**	**Employeed: Lecturer Sam Houston State University**
Tutalo, Rich	W	M	Fall	2012	The Identification of Prey Remains From Barn Owl (Tyto Alba) Pellets and Their Use in Identifying Taphonomic Biases in Fossil Deposits of Northwestern Botswana	**Lewis**	**Employeed: Operations Manager Conway Frieght**
Uba, Ifeanyi	BL	M			**Dropped Out**	**None**	
Umlang, Lance	W	M	Spring	2015	The effects of temperature on survival and reproduction of the tawny crazy ant (Nylanderia fulva)	**J. Cook**	**Huntsville, Texas**
Watts, Michael Ryan	W	M			**Dropped Out**	**Harper**	

West, Janalyn	W	F	Spring	2012	Comparative Effects of Female Resistance on Male Mating Success in Three Species of the Tribe Gambusiini	**Bucheli**	**Employeed; Sales Representative Pearson**
Wilson, Christopher	W	M	Spring	2015	A Review of the Brachymrmex depilis species group, and studies on the guenus Brachymermex	**J. Cook**	**Employeed; North Texas University Denton; Lab Assistant**

GRADUATE HANDBOOK
FOR
BIOLOGICAL SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES
COLLEGE OF ARTS AND SCIENCES
SAM HOUSTON STATE UNIVERSITY

Revised SPRING 2015

GRADUATE STUDENT CONTRACT

I, _____ have received a copy of the Graduate Student Handbook from the Department of Biological Sciences. I understand that I am expected to abide by all policies, deadlines, and time lines set forth both in this handbook and those found in the Graduate Catalogue, Schedule of Classes, and Thesis Requirements. I also acknowledge that it is my responsibility, and not the Graduate Coordinator nor members of my graduate committee, to see that I meet these obligations and deadlines. Additionally, I agree that my admission status as well as any financial support by the Department of Biological Sciences and College of Arts and Sciences may be withdrawn should it be found that I have not followed these policies in good faith.

Signed: _____ Date _____

Expected Graduation (Semester, Year): _____

Contact Information:

Email: _____ Local Phone Number: _____

Cell Phone Number: _____ Permanent Phone Number: _____

Permanent Address: _____

_____

ACADEMIC PROCEDURES

APPLICATION / ACCEPTANCE PROCEDURES

Regular Admission. Requirements for regular admission to the graduate school are set forth in the Graduate Catalogue and are summarized below:

A. Program Admission Requirements

1. A minimum undergraduate GPA, from the baccalaureate granting institution, of 2.5 (on a 4 point scale).

2. Applicants from non-English speaking countries must present a score of at least 78 on the Internet-based (iBT), 550 on the paper version (PBT), or 213 on the computer version (CBT) of the Test of English as a Foreign Language (TOEFL).

B. MS/MA Program in Biological Sciences

1. Meet Program Admission requirements as listed above.

2. An undergraduate degree in biology or closely related field. Those applicants having an undergraduate degree in a discipline other than biology must successfully complete ecology (BIO 340) and genetics (BIO 345) or equivalent courses prior to being considered for regular admission. An undergraduate minor in the biological sciences, including ecology and genetics, is strongly recommended. The requirement for ecology and genetics will be waived if a student scores 70% or better on the genetics and ecology sections of the MFAT exam. This exam must be taken within the first two weeks of entering the graduate program.

3. To be granted regular admission to the graduate program, applicants must have an undergraduate degree in biology or a related field. Applicants having an undergraduate degree in a discipline other than biology must successfully complete the equivalent of an undergraduate minor in the biological sciences before being considered for regular admission. For regular admission to the graduate program, applicants must also have a GRE score and undergraduate GPA in concordance with the following formula: {[(200*GPA) Averaged % ranking] > 300]}. For a final admissions decision, GRE scores and undergraduate GPA do not constitute the primary criteria to end consideration of an applicant. Applicants with combined scores of slightly less than 300 using the above formula may be considered for probationary admission.

4. Two letters of recommendation from faculty in the undergraduate major field of study.

***Conditional Admission.** An applicant whose records are incomplete may be granted conditional admission. Such students will be classified as conditional graduate students until all records are complete and all regular admission requirements are fulfilled. Conditional admission allows for the completion of **no more than six hours** of graduate credit and is valid for only **one semester**. All requirements for regular admission must be met prior to enrollment for more than six hours graduate credit.

***Probationary Admission.** An applicant whose records are complete but who did not qualify for regular admission can be granted **probationary admission** with department recommendation and approval from the Dean of College of Arts and Sciences. The student is allowed in graduate courses (maximum 12 hours) to demonstrate he/she can perform at the graduate level. Students must earn a grade of "B" or better in each course taken under probationary status in order to be considered for regular admission. The student may be required to retake the GRE on the advisement of the Graduate Committee.

***Preparatory Admission**. A degree-seeking applicant that does not qualify for regular admission and needs to complete one or more stem courses may be granted preparatory admission.

*Please note that conditional, probationary and preparatory admission does not guarantee regular admission once deficiencies are met. Only regularly admitted students are eligible for College of Arts and Sciences Teaching Assistantship positions.

Post Baccalaureate Admission or Non-Degree Admission. Post baccalaureate classification is assigned to students possessing a Baccalaureate Degree and that have not been regularly admitted or conditionally admitted into a graduate program, and could be classified as non-degree seeking. **Non-degree admission** may be granted to a student who does not intend to pursue a graduate degree but who wishes to take courses for professional advancement, licensure, certification, or self-education purposes, and who holds a baccalaureate degree or higher from an accredited university.

International students must meet the same requirements for admission and candidacy as students from the United States, including GRE scores. In addition, prospective students must demonstrate their ability to speak, write, and understand the English language. International students are eligible only for regular admission status.

Transfer Credit. A total of six (6) credit hours may be transferred to SHSU from another accredited graduate program. Exceptions to this rule require approval by the Department Chair and the Dean.

TEACHING ASSISTANTSHIPS

Teaching Assistantships are available through the Department of Biological Sciences in conjunction with the College of Arts and Sciences and the Office of Graduate Studies. They are limited in number and awarded on a competitive basis. MS students are given priority for Teaching Assistantship positions. An Application for Teaching Assistantship (see Appendix) should be submitted to the Graduate Coordinator at the time of application into the program. Assistantships are awarded for four semesters. Additional semesters of support are possible with approval by the Graduate Committee and Dean. Students must make satisfactory progress and adhere to all deadlines or risk losing their teaching assistantship. Students that are awarded assistantships will receive a letter from the COAS Dean or notification from the Biological Sciences Graduate Coordinator. Those students awarded assistantships are required to submit additional paperwork (see TA checklist in Appendix) to Ms. Gorgana Hyde in the Biological Sciences Department main office (LDB 300).

Failure to adhere to departmental policy may result in termination of your contract based on noncompliance.

HOURLY TEACHING POSITIONS

Students not awarded Teaching Assistantships may still be eligible to teach laboratories on an hourly basis. Students interested in hourly teaching positions should contact Ms. Lori Rose, the freshman laboratory coordinator in the Biological Sciences Department (936-294-1542, LDB 302).

SCHOLARSHIPS

Special Graduate Scholarship Awards (see Appendix for form) are offered by the College of Arts and Sciences. These scholarships ($1000 to $2000) are awarded competitively based on GPA, GRE scores and letters of recommendation. Scholarships are available for Spring and Fall semesters. Deadlines are September 15 and April 1 for Spring and Fall respectively. Please contact Ms. Tammy Gray (936-294-1230), College of Arts and Sciences, for additional information.

The Department of Biological Sciences also has scholarships available to graduate students. Applications for these scholarships are due February 5. For more information, please contact the Chair of the Scholarship Committee, Dr. Patrick Lewis (936-294-3397).

HEALTH INSURANCE COVERAGE

Teaching Assistants and Research Assistants employed half-time (20 hours per week) are eligible to participate in the university group health insurance plan. The current premium is ~$180 per month for individual coverage. Students can choose to opt out of the university plan during the initial enrollment period. Students are covered over the summer if they are

returning in the fall as a half-time employee. Summer premiums are taken from the last one or two paychecks in the spring semester. **All half-time Teaching Assistants and Research Assistants should attend the benefits orientation at the beginning of the semester to make informed decisions regarding health/dental plans.**

Alternative health insurance coverage is available through the university health center. An application can be obtained from the health center website <http://www.shsu.edu/~uhc_www/insurance.html>. The health center also provides routine services for a fee as well as pharmacy services.

All international students must obtain health insurance from a university plan listed above or present proof of coverage from an alternative policy.

TRAVEL SUPPORT FOR SCIENTIFIC MEETINGS

The Office of Graduate Studies has funds available to support travel to scientific meetings. To be eligible, students must be traveling to an event sponsored by a professional organization and must be presenting their research in the form of an oral or poster presentation. Travel funds are limited and are awarded on a competitive basis. For students NOT employed by the University, a Travel Funds Request form should be completed at the Office of Graduate Studies website (http://www.shsu.edu/~grs_www/FormsPublications.html). For students employed by the University, an official Travel Application form (available in the department's main office) should be completed to request funds for travel.

BIOLOGICAL SCIENCES GRADUATE STUDENT ORGANIZATION

The role of the Biological Sciences Graduate Student Organization (BSGSO) is to foster the interests of the graduate students in the Department of Biological Sciences, to promote and support academic and social activities of interest to graduate students, and to serve as a liaison between the graduate students, faculty, staff, and other organizations. Membership in the BSGSO is free and is automatic with acceptance into the graduate program in the Department of Biological Sciences. For more information see: http://www.shsu.edu/~org_bsgso/

CREDIT HOUR RESTRICTIONS

The normal course load (to be a full-time student) is 9-12 credit hours per full semester and 6 credit hours in the summer. Increased academic loads must be approved by the Dean. Other limitations include:

1. University Teaching Assistants and Research Assistants employed half-time (20 hours per week): The required academic load is 6 to 9 credit hours per semester for fall and spring with 3 credit hours per summer session if on a summer assistantship*.

2. Financial aid requires students to be enrolled in 18 hours per calendar year and at least 6

hours during each regular (fall and spring) semester.

* Students who enroll in BIO 6398 or BIO 6399 for the summer should enroll in the 10-week sections of those courses in order to maintain full-time student status.

BIOLOGICAL SCIENCES PROGRAM REQUIREMENTS AND PROCEDURES FOR MASTER OF SCIENCE AND MASTER OF ARTS DEGREES

Graduate Coordinator. Dr. Justin Williams, LDB 140, 936-294-2226, bio_jkw@shsu.edu, serves as the Graduate Coordinator for all graduate students seeking an MS or MA degree in the Biological Sciences. The Graduate Coordinator oversees the official academic records of all graduate students. The Graduate Coordinator is also the contact person for graduate students submitting any official paperwork. It is recommended that you report to the Graduate Advisor each time you need to file a document. The Graduate Coordinator will assist you with course selection until you have chosen your major advisor and advisory committee.

Program Requirements. Students seeking either of these degrees must complete BIO 5320 within their first two semesters of course work.

Students are expected to attend the weekly Departmental Seminar Series.

Adherence to Biology Program procedures, deadlines, and satisfactory progress is necessary for continuance of teaching assistantship support and enrollment in the graduate program. Failure to adhere to departmental policy may result in termination based on noncompliance. An official checklist will be kept in each student's graduate file.

Degree Documentation. Each student is responsible for submitting necessary paperwork to the Graduate Coordinator in a timely manner. The attached time-table and checklist should be used for reference. Please note that the Department of Biological Sciences deadlines may in some cases be earlier than those deadlines in the Graduate Catalog, Schedule of Classes, or Dean's office.

Graduate Student Evaluation. Each graduate student is required to complete a Graduate Student Evaluation form every semester enrolled. It is to be turned in by the 11th week of every semester. It requires an evaluation by the student as well as the advisor. Failure to complete and file this form will result in the committee's inability to provide additional TA support if requested.

Major Advisor. Each student is to choose a faculty member from the Department of Biological Sciences at SHSU as a Major Advisor (see Appendix for Advisor – Student Agreement form), **by the end of the first semester**, to guide him or her in their graduate program. The Major Advisor will serve as the chairperson of their Advisory Committee and will be responsible for advising the student on course choices and research efforts. The Major Advisor's or the Graduate Coordinator's signature will be required on all official paperwork. Per University policy, the Major Advisor must have Master's level graduate faculty status or higher. Should the student's Major Advisor change, a revised Advisor-Student Agreement form (see Appendix) should be submitted to the Graduate Coordinator. The former Major Advisor must be notified

of this change by the student, and permission must be granted by the former advisor for the student to use any intellectual property belonging to the former advisor.

Advisory Committee. With the assistance of the Major Advisor, the student will select a minimum of two other faculty members from the Department of Biological Sciences at SHSU to comprise their Advisory Committee. Exceptions to this policy may be granted upon petition to the Graduate Committee. The Graduate Committee may allow one of the three Advisory Committee members to be outside the Department of Biological Sciences at SHSU; however, that person must be able to contribute significantly to the thesis project. Exceptions will be granted on a case by case basis and the decision of the Graduate Committee is final. A fourth member of the Advisory Committee may be selected if desired; this faculty member may be outside of the department or University. If the Committee member is outside of the University, that member must be approved by the Dean of Graduate Studies (see the Office of Graduate Studies website to complete a form to request approval). Per University policy, any Advisory Committee members must have Associate level graduate faculty status or higher. The Advisory Committee should be selected **by the end of the first semester**. It is the role of the Advisory Committee, working in concert with the student, to establish an appropriate course sequence and plan of research to attain the student's goals. The student must meet with their Advisory Committee annually and prepare a progress report for committee approval. A Record of Annual Committee Meeting form (see Appendix) should be submitted to the Graduate Coordinator following each meeting. Should the student's Advisory Committee change, a revised Advisory Committee form (see Appendix) should be submitted to the Graduate Coordinator.

Declaration of Official Major/Minor (Degree Plan). The degree plan is completed by the student after consultation with the Graduate Coordinator. A degree plan should be on file **by the second semester** of the degree program. At this time the student commits to a degree plan, including whether or not to include a minor. After filing, changes to the degree plan may be made only when deemed appropriate by the Graduate Committee and approved by the Department Chair and the Dean.

Course Requirements. A list of appropriate courses is found in the Graduate Catalog. However, each Masters program may be tailored to fit the needs and interests of each individual student. The degree requires 32 hours of course work for the MA (non-thesis option) and 32 hours of course work for the MS (thesis option), which includes 6 hours of thesis credit. The MS with a minor or the MA with a minor each include 38 hours of course work (12 hours are taken in the minor field). **Q-drops are not permitted for graduate students in the Biological Sciences**. Up to two 400-level biology courses may be taken for graduate credit (see the Graduate Catalog for a list of eligible courses)**. In order to receive graduate credit, a Graduate Credit Form must be submitted to the COAS Dean's office by the 12th class day of the semester in which the 400-level course is being taken.**

BIOL 6398 and 6399. At least **six credit hours** of the core must be dedicated to thesis research hours, with at least 3 credit hours taken in 6398 and at least three taken in

6399. Graduate students may not enroll in these hours until the prospectus has been approved by the thesis committee and turned into the dean. Once the requirement of six credit hours has been reached, the student may enroll in one credit hour of each until graduation. PLEASE NOTE: Students must maintain at least a half-time enrollment status (or six credit hours) to receive financial aid or receive a teaching assistantship.

Prospectus. The candidate, in consultation with the director of the thesis committee, will select a subject of investigation and determine the availability of the required sources, facilities, materials, and equipment for the research and the writing of the thesis. The student will prepare a thesis prospectus which will specify the thesis topic, detail the purpose of the proposed investigation, describe the proposed method(s) of investigation, indicate the relationship of study to relevant research and findings of scholars in the student's area of concentration, and provide a commentary on source materials and/or facilities available for the successful completion of the research.

The prospectus shall be submitted to the thesis committee during the semester following admission to candidacy. After the committee has approved and signed the prospectus, it is submitted to the appropriate academic dean for final approval. Any subsequent changes in topic or the proposed method of investigation must be approved in writing by the thesis committee and submitted for approval to the appropriate academic dean.

See Appendix for Prospectus Guidelines.

Annual committee meetings. Students are expected to hold meetings with their Advisory Committee at least annually. Students should bring the **Record of Annual Committee Meeting** form to the meeting and have the committee members complete the form at the end of the meeting. The signed form should be turned in to the Graduate Coordinator.

Continuous enrollment requirement. Per University policy, once a student enrolls in a thesis course (BIO 6398 or BIO 6399), the student must continue to enroll in a thesis course each semester until the student graduates. For example, once a student enrolls in BIO 6398, the student must either re-enroll in BIO 6398 the following semester or must enroll in BIO 6399 the following semester if it is the semester of expected graduation. For the summer, enrollment in a thesis course in **either** Summer I or Summer II is acceptable; a student does not have to enroll in a thesis course for both Summer I and Summer II. Alternatively, a student may enroll in the 10-week offering of BIO 6398 or BIO 6399. The 10-week option also allows the student to maintain full-time status over the entire summer. Students may not enroll in a thesis course until an approved thesis prospectus is on file with the Graduate Coordinator. **To register for BIO 6398 or BIO 6399, a blue Instructor's Approval for Enrollment in a Class form must be completed and submitted to Dr. Justin Williams.** This form may be obtained from the main office.

Comprehensive Exam. All MS and MA degree candidates must pass a Comprehensive Exam, written and/or oral, over the graduate course work of their degree program. The Comprehensive Exam will be administered by the Comprehensive Examination Committee, which is composed of three faculty from which the student has taken graduate level classes. The Comprehensive Examination Committee may or may not be the same as the student's Advisory Committee. **Students must submit the Comprehensive Examination Committee Form (see Appendix) to the Graduate Coordinator by the beginning of the semester in which the exam is scheduled. The Graduate Committee must approve the student's Comprehensive Examination Committee before the exam is completed**. The exam should be completed **no later than the third semester** in the graduate program.

Thesis. The thesis requirement consists of an original written document over the research findings that were done in compliance with the project's prospectus, a thesis presentation given to the public and preformed publically during working hours, and a thesis defense wherein the candidate for the degree Masters of Science defends their research hypothesis, research methods, and research results to their approved committee.

Thesis Guidelines are available from the University Office of Graduate Studies in the Administration Building, Room 203, respective Dean's office, or from the web at http://library.shsu.edu/research/guides/thesis/

One semester prior to the semester of expected graduation: The student must file a degree application in the Registrar's Office (see current Deadlines for Graduation in the Appendix).

During the semester in which graduation is expected: MS candidates must be enrolled in BIO 6399 the semester of graduation. If the student fails to graduate that semester, he or she will have to continue to enroll in BIO 699 each semester until graduation. **There are no exceptions to this Office of Graduate Studies policy**. An approved final copy of the thesis must be submitted to the Dean of the College of Arts and Sciences by the date specified by the College. The student's Advisory Committee and the Department Chair must approve the thesis prior to submission to the Dean. Additional deadlines may be put in place by each Advisory Committee so that adequate time is available for review and corrections.

A **Thesis Route Sheet** may be downloaded from the Graduate Studies website at http://www.shsu.edu/~grs_www/FormsPublications.html. This is the only route sheet that will be accepted by Graduate Studies (see sample form in Appendix) and it must be typed. It serves as proof to the Registrar that the thesis has been completed and that all thesis requirements have been met for graduation.

For thesis printing, it is recommended that students use the SHSU Print Shop. For more information, contact Ms. Lori Proctor (lorip@shsu.edu), 106 Thompson Building.

The student should **schedule a public seminar with defense** to follow. As a general rule, a reasonably final draft of the thesis should be submitted to the student's Advisory Committee **no later than two weeks prior** to the scheduled public seminar and defense in order to allow the committee ample time to read and edit the thesis.

A **Report of Thesis Examination** (see Appendix) should be filled out by MS candidates after the thesis defense and submitted to the Dean's office. The student should bring the form to the defense. A copy of this form should also be filed with the Graduate Coordinator.

After successfully defending the Scholarly Paper, MA candidates must submit the **Report of Scholarly Paper Examination** (see Appendix) to the Dean's office a minimum of **two weeks prior to graduation** in order to be cleared for graduation. The student's Advisory Committee and the Department Chair must approve the scholarly paper by submission of the **Scholarly Paper Acceptance** form. **This form must also be submitted to the Dean's office a minimum of two weeks prior to graduation**.

Students participating in **Commencement Ceremonies** must arrange for a cap and gown at the University Bookstore at least 2 months before expected graduation.

All MS and MA degree candidates will be required to give a **public seminar** of their research. An oral defense of the research with the Advisory Committee will follow the public seminar. An announcement for the public seminar should be posted in the Department **at least one week in advance of the seminar**. **An announcement must be posted on the door to the faculty mailboxes, on the door to LDB 300, and an e-mail must be sent to all faculty members informing them of the date, time, and location of the seminar**. The seminar can take place during the fall, spring or summer semesters, i.e. while classes are in session and is to be given during the student's last semester in the program.

TIME TABLE OF PROCEDURES AND PROCESSES

First regular (i.e. fall or spring) semester:

1) Enroll in BIO 520 (if offered, otherwise wait until the following semester).
2) Submit Major Advisor and Advisory Committee member selections to the Graduate Coordinator for review and approval (see Appendix for forms).

Second regular semester:

1) After the completion of 6 graduate credit hours, all non-regular admission students must apply for regular admission and must have removed all conditional requirements.
2) Work toward completion of the Prospectus or Scholarly Paper Outline (see Appendix for Prospectus Guidelines).

3) **Prior to the submission of a prospectus and conducting research:** projects that involve vertebrate animal or human subjects must be approved by the IACUC (animal research) or IRB (human subject) Committee. Forms and information may be obtained from the Office of Research and Sponsored Programs website. See "Compliance" and "Digital Library" for information and appropriate forms.
4) Submit Declaration of Official Major/Minor form (Degree Plan).
5) **Before the start of the third semester,** the thesis prospectus must be approved by the Advisory Committee, Department Chair, and Academic Dean (see Appendix – Thesis Prospectus Approval form). For MA students an outline of the scholarly paper must be approved by the Advisory Committee and Department Chair (see Appendix – Scholarly Paper Outline Approval). The approved thesis prospectus/scholarly paper outline should be filed with the Graduate Coordinator.

Third regular semester:

1) Successfully complete Comprehensive Exam over graduate course work. **The Comprehensive Exam must be completed during the third semester,** preferably at the beginning of the third semester. After the exam, the **Report of Comprehensive Examination** form (see Appendix) should be submitted to the Graduate Coordinator.
2) Continue research and coursework for appropriate degree plan.

Fourth - Sixth regular semesters:

Continue research and coursework for appropriate degree plan.

Many research projects will involve a fifth and in some cases a sixth semester for completion. The student and the student's Major Advisor may together petition the Graduate Committee for a fifth semester of teaching assistantship support, although support is not guaranteed.

Summer semesters:

1) Students should take any available classes pertinent to the discipline.
2) Students should be heavily involved in their research.

RESEARCH FUNDING SOURCES

There are many sources available to support costs associated with graduate student research. Listed below are a few sources. Students are encouraged to consult with their Major Advisors regarding other potential funding sources in their particular disciplines.

1) Student Research Award

Funds graduate and undergraduate research, and to a lesser extent, conference travel costs.
Deadline: Variable, once per academic year
Administered by: Department of Biological Sciences
Amount: $200 to $500
Contact: Dr. William Lutterschmidt, Chair of the Research Award Committee for application

materials

2) Graduate Studies Conference Travel Funds
Please see Travel Support for Scientific Meetings on page 6 of this handbook for more information.

3) Texas Academy of Sciences Student Research Awards
Funds graduate and undergraduate student research in all areas of science.
Deadline: Usually December or January.
Amount: Up to $1000.
Restrictions: Must attend meeting to receive award and agree to present research at the meeting the following year.
See website for more information:
http://www.texasacademyofscience.org/award_competition.aspx

4) Grants-in-Aid of Research Program
Funds graduate and undergraduate student research in all areas of science.
Administered by Sigma Xi
Deadline: March 15 and October 15 annually.
Amount: up to $1000.
Restrictions: Student, major advisor or a committee member should be a Sigma Xi member.
See website for more information: http://www.sigmaxi.org/programs/giar/index.shtml

BIOLOGY COURSE DESCRIPTIONS

BIOL 5200> Professional Aspects of Science.
An essential course on scientific professionalism for the beginning M.S. student. This course provides students with an introduction to the professional and ethical responsibilities of scientists. Students will also discuss philosophical and controversial issues in academia and science, as well as political issues that may influence the process and practice of science. Most importantly, this course encourages and helps students to develop skills needed for presenting their research to fellow scientists through the processes of publishing, giving conference presentations, writing grant proposals, and becoming active in the scientific community. Required of all graduate students in Biology. Prerequisite: graduate standing. Credit 2.

BIOL 5305> Forensic Entomology.
The methods and materials necessary for use of insects as forensic evidence in legal investigation will be discussed. Laboratory included. Prerequisites: introductory entomology and graduate standing. Credit 3.

BIOL 5310> Classification and Natural History of Plants.
Classification and natural history of major groups of nonvascular and vascular plants are presented. Emphasis is on morphological recognition, ecological and physiological differences and economic importance of major taxa. Laboratory included. Prerequisites: Introductory Botany course and graduate standing. Credit 3.

BIOL 5340> Electron Microscopy.
This course is designed to teach students the methods of preparing specimens for electron microscope analysis and to use the electron microscope as a tool to conduct research. Students will become competent in using the electron microscope for visual analysis or chemical elemental analysis. Prerequisites: 12 hours advanced biology. Credit 3.

BIOL 5350> Plant Evolutionary Biology.
The developmental program of many plants is sufficiently plastic to allow a suite of evolutionary scenarios not encountered in other major lineages. Mechanisms such as hybridization, polyploidy, somaclonal variation, chromosomal rearrangement, and the evolution of diverse and unique breeding systems have allowed plants to thrive in every terrestrial biome. Additionally, many of these mechanisms allow for rapid evolution that can be documented over the span of a few generations. This course will cover the myriad ways in which plants have diversified from their endosymbiotic ancestors as well as the hallmarks of evolution that characterize major plant lineages. Prerequisites: Graduate standing in the Department of Biological Sciences and an introductory course in botany. Credit 3.

BIOL 5360> Principles of Systematics.
Systematics is the study of biological diversity, encompassing the evolutionary origins of this diversity and the construction of classification systems that recognize evolutionary lineages. This course will cover the history and philosophy of classification as a whole, from the

development of nomenclature to modern techniques of molecular phylogenetics. Topics will include species concepts, nomenclature, interpreting and inferring phylogenies from many kinds of data, the use of DNA databases, DNA barcoding and alternatives to the Linnaean system of nomenclature. Prerequisites: Graduate standing and an introductory course in statistics. Credit 3.

BIOL 5480> Comparative Animal Physiology.
A study of the physiological adaptive mechanisms and the comparison of adaptive strategies across vertebrate taxa. Emphasis will be directed toward homeostatic mechanisms of water, energy and electrolyte balance, and metabolism. A two-hour laboratory to emphasize investigative skills employing modern laboratory techniques is included. Independent original research project required. Prerequisites: organic chemistry, general physiology, or instructor's consent. Credit 4.

BIOL 5362> Advanced Plant Physiology.
Further studies of the life processes of plants at the molecular, cellular and organismal levels with focus on current research and recent advances in this field. A scholarly paper on a selected physiological topic is required. Three hours of lecture per week. Prerequisite: 12 hours advanced biology. Credit 3.

BIOL 5364> Cell Structure and Physiology.
A study of signal transduction pathways in the cell. For the laboratory portion of the course, students will conduct independent investigations of cells defective in signal transduction and prepare a scientific paper of the results. Prerequisites: cell biology and organic chemistry. Credit 3.

BIOL 5368> Advanced Invertebrate Zoology.
Invertebrates are the dominant form of life on earth, comprising greater than 75% of all described species. Students will be briefly introduced to the phylum/class level characteristics of the major groups of invertebrate animals. The majority of the course will deal with the evolutionary history and phylogeny of invertebrates, invertebrate ecology, and the myriad solutions invertebrates have evolved to deal with the common problems of reproduction, feeding, osmoregulation, respiration, locomotion and developmental patterns. Prerequisites: 12 hours advanced biology, invertebrate zoology recommended. Credit 3.

BIOL 5371> Evolution.
This course is concerned with modern concepts of the evolution of organisms. Extended reading and classroom discussion supplement the lecture treatment. Three one-hour lectures a week are scheduled. Prerequisite: introductory genetics. Credit 3.

BIOL 5375> Bacterial Physiology.
A study of bacterial metabolism that will include fermentation, anaerobic respiration, bacterial photosynthesis and nitrogen fixation. This course will also discuss how bacteria sense their

environment and adjust their metabolism accordingly. Three hours of lecture per week. Prerequisites: microbiology, genetics, and organic chemistry II or general physiology. Credit 3.

BIOL 5378> Virology.
A study of viruses that infect plants, animals, and bacteria. Areas considered include chemical and structural properties of viruses, virus-host relations, and infection and growth phenomena, including interference and regulation. Also included are the roles of viruses as agents of disease and malignancy, and as gene vectors in natural settings, but also as tools in biotechnology and gene therapy. Three hours of lecture per week. Prerequisites: microbiology, genetics, and organic chemistry. Credit 3.

BIOL 5380> Advanced Ecology.
An advanced theoretical and practical study of biotic and abiotic ecosystem interactions encompassing the physiology of individuals, growth of populations including social and species interactions within populations, analysis of population composition and change, the distribution of communities, and the functioning of ecosystems. Independent study of a selected ecological topic required. Prerequisites: general chemistry I and II, general ecology. Credit 3.

BIOL 5381> Ecological Computer Modeling.
An introduction to the development and application of computer models in ecology and population biology. Principles of modeling, programming concepts, specific model dynamics, and prepackaged computer models will be explored. Two hours of lecture and two hours of laboratory per week. Prerequisite: general ecology. Credit 3.

BIOL 5382> Ichthyology.
Taxonomy, distribution, natural history and economic importance of fishes with emphasis on Texas forms. Field work will include techniques for determining populations, growth studies, food habits and propagation. Two-hour laboratory plus field work. Prerequisites: introductory biology plus 12 hours advanced biology. Credit 3.

BIOL 5383> Herpetology.
An introduction to the biology of amphibians and reptiles and one of the most important evolutionary events in natural history: the rise and diversification of terrestrial vertebrates. A comprehensive introduction will address the taxonomy, systematics, evolution, anatomy, physiology, ecology, distribution, and natural history of these unique vertebrates. Upon completion of this course, students will understand and appreciate why amphibians and reptiles serve as excellent biological models in research, and will become familiar with the major research questions and programs in herpetology. A laboratory and field component will introduce students to a variety of sampling and collecting techniques. Common museum practices for specimen preservation and documentation will also be addressed. Although regional species will receive the most emphasis, this course will address the biology of all amphibians and reptiles. Two-hour laboratory plus field work. Prerequisites: introductory biology plus 12 hours advanced biology. Credit 3.

BIOL 5384> Ornithology.
The classification evolution, anatomy, physiology, ecology, behavior and conservation of birds are studied in this course. Laboratories include general anatomy, taxonomy, identification and field techniques used in the study of behavior and migration. Laboratories may include independent research projects related to topics discussed in this course. Two-hour laboratory plus field work. Prerequisites: introductory biology plus 12 hours advanced biology. Credit 3.

BIOL 5385> Mammalogy.
The taxonomy, systematics, anatomy, ecology, distribution, and life history of mammals are studied in this course. Laboratories include general taxonomy, identification, and field techniques. Two-hour laboratory plus field work. Prerequisites: introductory biology plus 12 hours advanced biology. Credit 3.

BIOL 5390> Limnology.
Limnological techniques are stressed with special emphasis on physiochemical conditions of freshwater environments and their effects on aquatic life. Plankton analysis, a study of bottom fauna, lake and stream mapping and evaluation of aquatic productivity are included. Two-hour laboratory plus field work. Prerequisites: 8 hours college chemistry plus 12 hours advanced biology. Credit 3.

BIOL 5391> Advanced Genetics.
This is an advanced study of the principles of heredity and the nature and function of the gene. Emphasis will be on molecular genetics with special attention to recent advances in DNA technologies. Laboratory studies include completion of a mini-research project and preparation of a scientific paper. Two-hour laboratory. Prerequisite: introductory genetics with grade of C or better and organic chemistry. Credit 3.

BIOL 5394> Special Topics in Graduate Biology.
This course of Graduate Faculty-led study is designed to provide exposure of graduate students to new biological topics and concepts in a course setting, prior to that course's formal Department, College, and University course adoption. This course may be repeated for different Advanced Special Topics (different courses). Prerequisite: graduate standing in the Department of Biological Sciences or consent of the instructor.

BIOL 5095> Special Graduate Topics in Biology.
This course is designed to provide an avenue for selected graduate students to engage in independent studies. Registration is on an individual basis but is limited to students in residence. A topic of study is selected and approved by the Biology faculty. Prerequisites: graduate standing in Biology and consent of department chair. Credit 3.

BIOL 5386> Reproductive Physiology.
Physiological control of animal reproduction is the subject of this course. Current literature relating to this subject is critically examined and evaluated. An individual research problem is

undertaken by the student. Two-hour laboratory. Prerequisites: introductory courses in physiology and organic chemistry. Credit 3.

BIOL 6398> Thesis. Credit 3.
BIOL 6399> Thesis. Credit 3.

BIOL 6098> Thesis. Credit 1.
BIOL 6099> Thesis. Credit 1.

COMPREHENSIVE GRADUATE COURSES

BIO 5380—Advanced Ecology
Field Parasitology—T. Cook
Advanced Behavioral Ecology—Neudorf/Rowe
Applied GIS—Williams
Field Entomology –Bucheli (future proposed course)
Biogeography—Thies
Community Ecology—Hargrave

BIO 5371—Evolution
Evolution of Mating Systems—Deaton
Life History Evolution—Deaton
Evolution—Lewis
Insect Evolution—Bucheli

BIO 5391—Advanced Genetics
Population Genetics—Randle
Conservation Genetics—Deaton
Molecular Genetics—Choudhary

TENTATIVE GRADUATE COURSE ROTATION

Every Fall and Spring Semester

BIO 5380	Advanced Ecology

Fall—Every Year

BIO 5320	Professional Aspects of Science
BIO 5391	Advanced Genetics

Spring—Every Year

BIO 5371	Evolution

Fall—Even Years

BIO 5336	Principles of Systematics
BIO 5364	Cell Structure and Physiology
BIO 5385	Mammalogy
BIO 5391	Advanced Genetics—Conservation Genetics

Fall—Odd Years

BIO 5368	Advanced Invertebrate Zoology
BIO 5382	Ichthyology
BIO 5391	Advanced Genetics—Molecular Genetics

Spring—Even Years

BIO 5335	Plant Evolutionary Biology
BIO 5371	Evolution
BIO 5384	Ornithology

Spring—Odd Years

BIO 5371	Evolution—Lewis
BIO 5380	Advanced Ecology—Advanced Behavioral Ecology
BIO 5383	Herpetology

Summer—Odd Years

BIO 5380	Advanced Ecology—Field Parasitology—T. Cook

As Needed

BIO 5330	Forensic Entomology
BIO 5331	Classification and Natural History of Plants
BIO 5334	Electron Microscopy
BIO 5340	Forensic Biology
BIO 5348	Comparative Animal Physiology
BIO 5375	Bacterial Physiology
BIO 5378	Virology
BIO 5381	Ecological Computer Modeling
BIO 5390	Limnology
BIO 5394	Special Topics—Osteology—Lewis
BIO 5394	Special Topics—Insect Morphology—J. Cook
BIO 5394	Special Topics—Biochemical Analysis of Proteins—Gaillard
BIO 5394	Special Topics—Statistical Design and Analyses in Biology—Hargrave
BIO 5396	Reproductive Physiology

APPENDIX

DEADLINES, FORMS, AND CHECKLISTS

GRADUATE DEADLINES Fall 2014

April 2014		Advance Registration begins - refer to advance registration schedule for details.
August 23, 24, 25, 26	SATURDAY, SUNDAY, MONDAY, TUESDAY:	Residence halls open for occupancy, 11:00 A.M. - 5:00 P.M.
August 25, 26	MONDAY, TUESDAY:	• Registration for undergraduate and graduate students - refer to schedule of classes for details.
August 27,	WEDNESDAY:	• Daytime on-campus classes begin. • Wednesday Night (WN) classes begin (on-campus and off-campus). • Late Registration, process class schedule changes. Refer to schedule of classes for details and deadlines.
September 1	MONDAY:	Labor Day. Holiday for students and faculty.
September 3	WEDNESDAY:	• Last day to register and to process schedule changes online. • Last day to drop a 7½(a)-week course without a "Q" and receive 100% refund (not your only/last course).
September 8	MONDAY:	Monday Night (MN) classes begin (on-campus and off-campus)
September 12	FRIDAY:	• Twelfth Class Day. • Last day to drop without a "Q" and receive 100% refund (not your only/last course). • Degree applications to be filed in Registrar's Office by students graduating in December 2014.
September 26	FRIDAY:	Last day to Q drop a 7½(a)-week course.
October 3	FRIDAY:	Last day to submit draft thesis/dissertation to Library for format and style review.
October 20	MONDAY:	First class day for 7½(b) term.
October 24	FRIDAY:	Last day to drop a 7½(b)-week course without a "Q" and receive 100% refund (not your only/last course).
October 31	FRIDAY:	Last day to complete a public defense of the thesis dissertation
November 7	FRIDAY:	Advance registration begins for spring 2015 (see Advance Registration Schedule)
November	WEDNESD	Last day to submit complete, defended and signed thesis/dissertation the appropriate academic

12	AY:	dean's office.
November 14	FRIDAY:	• Last day to drop fall courses or labs with a "Q." • Last day to submit final thesis/dissertation (defended and signed) and Route Sheet to the Director of the Library.
November 21	FRIDAY:	• Last day to make all final copies of thesis/dissertation and submit to NGL for binding. • Last day to submit Route Sheet to the Dean of Graduate Studies. • Last day to drop a 7½(b)-week course.
November 25	TUESDAY:	Thanksgiving holidays for students and faculty begin at 9:00 P.M. Residence halls close at 10:00 P.M.
November 26, 27, 28	WEDNESDAY, THURSDAY, FRIDAY:	Thanksgiving holidays for students and faculty.
November 30	SUNDAY:	Residence halls open at 2:00 P.M.
December 1	MONDAY:	Classes resume at 8:00 A.M.
December 5	FRIDAY:	Last class day. Last day to resign by 5:00 P.M. in the Registrar's Office
December 8, 9, 10, 11	MONDAY, TUESDAY, WEDNESDAY, THURSDAY:	Final examinations [includes Monday Night (MN), Tuesday Night (TN), Wednesday Night (WN) and Thursday Night (ThN) final examinations].
December 12	FRIDAY:	Residence halls close at 12:00 noon
December 12, 13	FRIDAY, SATURDAY:	Commencement, Bernard G. Johnson Coliseum.
December 15	MONDAY:	12:00 Noon. Deadline for filing grades with the Registrar's Office. Fall semester ends.

RESIGNATION NOTE:

A resignation is when a student drops all of their currently enrolled courses. Students who resign before the 12th class day will not have any indication in their official transcript. Students who resign beginning the 13th class day until the deadline posted in the academic calendar will have a

"W" grade. However, if a final exam has been given for any course or lab you will not be permitted to resign.

GRADUATE DEADLINES Spring 2015

November 2014		Advance Registration begins - refer to advance registration schedule for details.
January 10, 11, 12, 13	SATURDAY, SUNDAY, MONDAY, TUESDAY:	Residence halls open for occupancy, 11:00 A.M. - 5:00 P.M.
January 12, 13	MONDAY, TUESDAY:	• Registration for undergraduate and graduate students - refer to schedule of classes for details.
January 14	WEDNESDAY:	• Daytime on-campus classes begin. • Late Registration, process class schedule changes. Refer to schedule of classes for details and deadlines.
January 19	MONDAY:	University Holiday - Martin Luther King Day
January 26	MONDAY:	Monday Night (MN) classes begin (on-campus and off-campus)
January 30	MONDAY:	• Twelfth Class Day. Last day to drop without a "Q" and receive 100% refund. • Degree applications to be filed in Registrar's Office by students graduating in May 2015.
February 13	FRIDAY:	Last day to "Q" drop a 7½(a)-week course.
February 27	FRIDAY:	Last day to submit draft thesis/dissertation to Library for format and style review.
March 6	FRIDAY:	• Residence halls close at 6:00 P.M. for spring recess. • Last class day for 7½(a)-week courses.
March 9, 10, 11, 12, 13,	MONDAY THROUGH FRIDAY:	Spring recess for students and faculty.
March 15	SUNDAY:	Residence halls open at 2:00 P.M.

March 16	MONDAY:	• Classes resume at 8:00 A.M. • First class day for 7½(b)-week courses.
March 20	FRIDAY:	• Last day to drop 7½(b) courses without a "Q" and receive 100% refund. • Summer/Fall 2015 advance registration begins - refer to advance registration schedule for details.
March 27	FRIDAY:	• Last day to drop spring coruses or lab with a "Q." • Last day to complete a public defense of the thesis/dissertation.
April 3	FRIDAY:	Good Friday. Holiday for students anf faculty.
April 8	WEDNESDAY:	Last day to submit complete, defended and signed thesis/dissertation to the appropriate academic dean's office.
April 10	FRIDAY:	Last day to submit final thesis/dissertation (defended and signed) and Route Sheet to the Director of the Library.
April 17	FRIDAY:	• Last day to make all final copies of thesis/dissertation and submit to NGL for binding. • Last day to submit Route Sheet to the Dean of Graduate Studies. • Last day to "Q" drop a 7½(b)-week course.
May 1:	FRIDAY:	Last class day. Last day to resign by 5:00 P.M. in the Registrar's Office
May 4, 5, 6, 7,	MONDAY, TUESDAY, WEDNESDAY, THURSDAY:	Final examinations [includes Monday Night (MN), Tuesday Night (TN), Wednesday Night (WN) and Thursday Night (ThN) final examinations].
May 8	FRIDAY:	Residence halls close at 12:00 noon
May 8, 9	FRIDAY, SATURDAY:	Commencement, Bernard G. Johnson Coliseum.
May 11	MONDAY:	12:00 Noon. Deadline for filing grades with the Registrar's Office. Spring semester ends.

RESIGNATION NOTE:

A resignation is when a student drops all of their currently enrolled courses. Students who resign before the 12th class day will not have any indication in their official transcript. Students who resign beginning the 13th class day until the deadline posted in the academic calendar will have a "W" grade. However, if a final exam has been given for any course or lab you will not be permitted to resign.

SAM HOUSTON STATE UNIVERSITY
Member of The Texas State University System
College of Arts and Sciences
SPECIAL GRADUATE SCHOLARSHIP AWARD
NOMINATION / APPLICATION FORM

The Special Graduate Scholarship is a prestigious scholarship from Sam Houston State University. It is awarded to selected graduate students whose academic accomplishments and university or community citizenship are excellent in every respect.

To be considered for a Special Graduate Scholarship, a Sam Houston State University student must be enrolled as a full-time, on-campus graduate student, have an undergraduate/graduate GPA of at least a 3.2 and a combined GRE (V + Q) score of 1000. An International student applying for this scholarship must have an established Sam Houston State University GPA or a formal transcript evaluation on file.

Instructions: Type or print clearly all items on this form. This application will be complete upon the receipt of: (1) the completed application form, (2) current transcript, and (3) two letters of recommendation. These letters should attest to the nominee's/applicants academic success and to university/community citizenship and character.

Name: Last First Middle

_____

Mailing Address _____
Street City State Zip Code

Home Telephone No.(___)_____ GRE Score _____

ID/SSN Number _____ Grade Point Average _____

Major _____ Minor_____

Semester(s) for which you are applying: ____ Fall 20_____ ____ Spring 20_____

Mailing Instructions: Letters of recommendation and all other materials pertinent to this scholarship should be mailed directly to Ms. Tammy Gray, College of Arts and Sciences, P. O. Box 2209 SHSU, Huntsville, Texas 77341. **DEADLINES: Fall Semester – April 1 or until all funds have been expended; Spring Semester - September 15 or until all funds have been expended.**

Signature of Applicant or Person Making Nomination _____

Date of Application _____

PLEASE USE THIS APPLICATION ONLY FOR THE SPECIAL GRADUATE SCHOLARSHIP AWARD

APPLICATION FOR TEACHING ASSISTANTSHIP (ASSISTANT INSTRUCTORSHIP)
SAM HOUSTON STATE UNIVERSITY
Huntsville, Texas

Date_____

Application for position as Assistant Instructor in Department or School of _____

Name in Full _____ Social Security Number_____

Home Address _____

Home Phone _____

EDUCATIONAL BACKGROUND

Include secondary school and complete record. If work is in progress toward a degree, indicate degree sought and anticipated date of conferral. Mark anticipated date with an asterisk (*).

Dates Attended	Institution/Location	Major/Minor	Degree	Year
----			**Major:** **Minor:**	
----			**Major:** **Minor:**	
----			**Major:** **Minor:**	
----			**Major:** **Minor:**	

This application should be submitted to the Graduate Director of the department or School in which you are seeking an instructorship. The applicant should have the following sent to the Director immediately:

1. Two complete transcripts of all previous college work.
2. One letter of reference from each of three persons (note information given later regarding references).
3. Score for Graduate Record Examination, Miller Analogies Test, or Graduate Management Admissions Test as appropriate.

Scholastic and extracurricular honors in secondary and undergraduate schools:

_____ _____

_____ _____

_____ _____

Sam Houston State University Is An Affirmative Action/Equal Opportunity Institution

MEMBERSHIPS

List memberships in (a) learned societies, (b) professional organizations, (c) technical societies, and (d) student organizations.

_____ _____

_____ _____

_____ _____

EXPERIENCE

List experience chronologically. Include part-time as well as full-time employment.

Dates	Name and location of institution or firm	Title, rank, department, or position

REFERENCES

List three people whom you are requesting to send personal references. Applicant must contact prospective references and ask them to mail their letter directly to the Graduate Director of the department to which you are applying. Two references should be from teachers you have had in your major field of study.

Name	Address	Position

PLAN OF STUDY

Indicate the type of degree you plan to earn and give a brief description of major training objectives. If you plan to earn a degree requiring the thesis, briefly outline the type of research you would do.

Graduate Teaching Assistant Checklist

Biological Sciences

STUDENT NAME: _____ **SSN/SAM ID:** _____

***All of the following paperwork must be completed and submitted BEFORE the student can be set up as an active employee on SHSU payroll (i.e. as Teaching Assistant, Research Assistant or Hourly Teaching Assistant).**

_____**Application for Teaching Assistantship (Green Form)** – This form is obtained from the Graduate Advisor.

_____**Three letters of recommendation** (If the student would like to use the three letters provided upon application into the biology graduate program they are not required to obtain new ones, unless they wish to do so.)

_____**Official transcripts from all universities attended** (If the student is a graduate of SHSU and has already been accepted into the biology graduate program they must provide official copies of all transcripts for employment purposes, if they provided unofficial copies upon application into the program. If they provided official copies, these may be used and no additional copies are needed. If the student is not a graduate of SHSU and has already been accepted into the biology graduate program they do not have to provide official copies of their transcripts because they were provided upon application into the graduate program. No additional copies will be needed.

_____**English Language Proficiency Statement** – Prepared by the department secretary. No action is required by the student.

_____**Payroll Action Form (PAF)** – Prepared by department secretary.

_____**The State of Texas Application for Employment** - Student must complete this application form in it's entirety, including the employment history section. A resume cannot be used in substitution of this form.
http://www.twc.state.tx.us/jobs/gvjb/stateapp.doc

_____**I-9 Form - Employment Eligibility Verification** (Student completes section 1. Secretary completes section 2.)
http://uscis.gov/graphics/formsfee/forms/files/i-9.pdf

_____**Applicant Statistical Data Sheet**
http://www.shsu.edu/~hrd_www/employment/staff/documents/ApplicantStatisticalDataSheetRevised.doc

_____**W-4 form**
http://www.irs.gov/pub/irs-pdf/fw4.pdf

____ GRE Scores Submitted to SHSU

_____**Mandatory Legislation Acknowledgment form** – Student is required to sign page 1 of this document, acknowledging that they read it and may keep the remaining pages.
http://www.shsu.edu/~hrd_www/notification/mand-ack.doc

_____**U. S. Selective Service Registration has been verified in accordance with HB 558 (effective September 1, 1999).** A male applicant, age 18 to 25, must present proof of registration at the time of the job offer. The required proof will usually be in the form of a Selective Service Registration card. If the selected applicant does not have his card, his registration status can be verified at: https://www4.sss.gov/regver/verification_nc.asp. If the applicant has not registered, he can register at any U.S. Post Office, by completing and mailing the registration form, and obtaining a Certificate of Mailing as proof of the registration; or on-line at: https://www4.sss.gov/regver/register_nc.asp.

_____**New Employee Checklist for Human Resources** – Completed by department secretary.
http://www.shsu.edu/~hrd_www/forms/NewEmployeeChecklist.doc

_____**Copy of driver's license & Social Security Card** – If the student does not have access to a copier, have them bring these when they turn in their paperwork and the secretary will make a copy.

*__New Employee Orientation__ - Graduate TAs must attend a New Employee Orientation session on or

before their first active duty date. Please refer to the following orientation schedule provided by the SHSU Human Resources department: http://www.shsu.edu/~hrd_www/benefits/orien.html . If their employment start date is not listed, please have the TA contact our Human Resources Representative, Cynthia Bennett, at (936) 294-1064. If the student does not receive a new employee benefits packet in the mail before the orientation date they must stop by the Human Resources office to pick one up. All forms must be completed even if the student wants to waive their insurance option.

ADVISOR – STUDENT AGREEMENT

(To be submitted to Biology Graduate Coordinator by the end of the Student's First Semester)

STUDENT NAME: _____

DEGREE SOUGHT: MS MA MS WITH MINOR MA WITH MINOR

MINOR: _____

I, _____ agree to be the major advisor to
(print/type name)

_____ .
(print/type name)

_____ _____
MAJOR ADVISOR SIGNATURE DATE

_____ _____
STUDENT SIGNATURE DATE

Primary Responsibilities of Major Advisor:

1) Chair Advisory Committee

2) Provide student with research guidance, i.e, topic selection, experimental design, prospectus, grant proposals, thesis writing.

3) Return paperwork in a timely manner

Primary Responsibilities of Student:

1) Communicate regularly with Major Advisor and Advisory Committee

2) Adhere to all program deadlines

3) Attend Departmental seminars

ADVISORY COMMITTEE AGREEMENT

(To be submitted to Biology Graduate Coordinator by the End of the Student's First Semester)

I, _____, do hereby submit the names of the following faculty as potential committee members. I attest that I have met with each and have discussed my degree plan and they have agreed to serve on my committee.

Major Advisor's Signature: _____

Printed Name: _____ Date: _____

Advisory Committee Members: (Only two members are required in addition to the Major Advisor, but a third member may be selected.)

Printed Name	Signature	Date	Department
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Date Submitted: _____ Student ID Number: _____

Expected Graduation Date: _____

Received: _____ Coordinator's Signature: _____

Approved: _____ Dept. Chair's Signature: _____

RECORD OF ANNUAL COMMITTEE MEETING

(To be submitted to Biology Graduate Coordinator After Each Committee Meeting)

DATE: _____

STUDENT NAME: _____

DEGREE SOUGHT: MS MA MS WITH MINOR MA WITH MINOR

MINOR: _____

DATE ADMITTED: _____ EXPECTED GRADUATION DATE: _____

PROGRESS TOWARD DEGREE: SATISFACTORYUNSATISFACTORY

COMMITTEE RECOMMENDATIONS:

ADVISORY COMMITTEE SIGNATURES:

_____
Major Advisor

_____

College of Arts and Sciences
Graduate Program

GRADUATE CREDIT FORM

Date: _____

Sam ID Number: _____

_____
Last Name First Name MI

Undergraduate course(s) to be given graduate credit:

_____

_____

_____

_____

Courses completed in: _____ _____
Semester(s) Year(s)

_____
Graduate Advisor

_____
Coordinator

_____
Departmental Chair

_____
Dean

Forwarded to Registrar by Dean's Office: _____

PROSPECTUS GUIDELINES

General guidelines: The proposal should be double spaced, with 1 inch margins, 12 point font, and page numbers in the top right corner of each page. The length should be no more than 12 pages of text for sections A - E below.

A. Introduction - a thorough overview (4 – 5 pages) of the area of study including appropriate supporting literature citations. Include past and present research on your specific research topic.

B. Hypotheses/Objectives - discuss hypotheses you will test and their associated predictions. Clearly state the objectives of your study.

C. Methods and Materials - how, where, when the proposed research will be conducted. Describe methods in as much detail as possible. Include how the data will be analyzed statistically.

D. Expected Results - describe the expected outcome for the research activities based on literature and previous work.

E. Significance of the Proposed Research - general and/or specific significant results from the proposed study. "How will doing this research benefit us or improve the general knowledge of science?"

F. Literature Cited - a listing of sources of information cited in the proposal in a formal scientific format appropriate to the discipline.

G. Budget - Provide an itemized budget for your research. Indicate how the research will be funded and the facilities required for the research.

GUIDELINES FOR SCHOLARLY PAPER OUTLINE

General guidelines: The outline should be double-spaced, with 1- inch margins, 12 point font, and page numbers in the top right corner of each page. The length should be 3 - 4 pages of text for sections A - D below. The Scholarly Paper should not be a repeat of a previously reviewed topic, but rather an original work examining controversies in the literature or an area lacking review, with the goal of producing a publishable article.

A. Title – Sufficiently descriptive to indicate the major point of the paper.

B. Problem/Topic Statement – briefly discuss hypotheses you will review. Clearly state the objectives of your study (identify controversies or lack of previous review).

C. Abstract – A summary of the problem you will review and the approach you intend to take in the review.

D. Significance of the Proposed Review - general and/or specific significant results from the proposed review. "How will doing this research benefit us or improve the general knowledge of science?"

E. Literature Cited - a listing of sources of information cited in the proposal in a formal scientific format appropriate to the discipline.

F. Bibliography – a preliminary literature survey of key references that will be used in the preparation of the scholarly paper (at least 10 to 12 articles).

GUIDELINES FOR SCHOLARLY PAPER

The Scholarly Paper should be prepared in the style of a Journal appropriate for the discipline. It should be prepared as a review suitable for publication. The length will be dependent on the topic and field of study. However, a thorough review of the literature involving an original approach is expected.

THESIS PROSPECTUS APPROVAL

Submitted to the College of: _____

Candidate: _____

Degree in Progress: _____

Major: _____ Minor: _____

Proposed topic: _____

_____

***Attach copy of prospectus to this form**

Thesis committee approval: _____ _____
(Major advisor) (Date)

_____ _____

_____ _____

Department Chair approval: _____ _____

Final Approval by Dean: _____ _____

SCHOLARLY PAPER OUTLINE APPROVAL

Submitted to the College of: _____

Candidate: _____

Degree in Progress: _____

Major: _____ Minor: _____

Proposed topic: _____

_____

***Attach copy of outline to this form**

Advisory committee approval: _____ _____
(Major advisor) (Date)

_____ _____

_____ _____

Department Chair approval: _____ _____

Final Approval by Dean: _____ _____

COMPREHENSIVE EXAMINATION COMMITTEE FORM

(Submit to the Graduate Coordinator by Beginning of Third Semester in Program)

Name: _____ Date: _____

Student ID#:_____

Do you have a degree plan on file? _____Yes _____No

List your proposed Examination Committee members (please print names):

_____

_____

_____

Date of Comprehensive Exam: _____

Student Signature: _____ Date: _____

Major Advisor Signature: _____ Date: _____

OFFICE OF GRADUATE RECORDS
SAM HOUSTON STATE UNIVERSITY
Huntsville, TX

Report of Comprehensive Examination

A(n) _____ comprehensive examination was administered to
(oral/written/oral and written)

_____, a candidate for the degree of _____,

on _____, 20_____,in room _____ of the Lee Drain Building.

Major _____ Pass / Fail

Minor _____ Pass / Fail

A re-examination is _____ in the Major _____ and
(unnecessary/necessary/requested)

Minor _____.

THE EXAMINING COMMITTEE

_____
Chairman

_____

_____

_____
Date

COLLEGE OF ARTS AND SCIENCES
SAM HOUSTON STATE UNIVERSITY
Huntsville, Texas

Report of Thesis Examination

_____, SAM ID:_____

a candidate for the degree of_____

was examined on the thesis project entitled_____

_____

_____

_____

on_____, 20_____, in Room_____ of the _____

building. The members of the Thesis Committee certify that the student _____.
(passed/failed)

THE THESIS COMMITTEE

_____ _____
Date Committee Chair

_____ _____
Date Committee Member

_____ _____
Date Committee Member

_____ _____
Date Dean, College of Arts and Sciences

COLLEGE OF ARTS AND SCIENCES
SAM HOUSTON STATE UNIVERSITY
Huntsville, Texas

Report of Scholarly Paper Examination

_____, SAM ID:_____

a candidate for the degree of_____

was examined on the paper entitled_____

_____

_____

_____

on_____, 20_____, in Room_____ of the _____

building. The members of the Advisory Committee certify that the student _____.
(passed/failed)

THE ADVISORY COMMITTEE

_____ _____
Date Committee Chair

_____ _____
Date Committee Member

_____ _____
Date Committee Member

_____ _____
Date Dean, College of Arts and Sciences

SCHOLARLY PAPER ACCEPTANCE
MA DEGREE IN THE BIOLOGICAL SCIENCES

Candidate: _____

Major: _____ Minor: _____

Title: _____

_____

Advisory Committee Approval:

_____ _____
Major Advisor Date

_____ _____
Date

_____ _____
Date

Department Approval:

_____ _____
Chair Date

_____ _____
Graduate Coordinator Date

Final Approval by Dean:

_____ _____
Date

This form must be filed in the Dean's office a minimum of two weeks prior to graduation.

Sam Houston State University Department of Biological Sciences
Semester Graduate Student Evaluation

A completed copy of this form must be submitted to the Graduate Committee by the 12th week of each semester enrolled.

Failure to complete and file this form will result in the committee's inability to provide additional TA support if requested.

Section 1: Academic Progress (TO BE COMPLETED BY THE STUDENT)

Date this form is completed:_____

Name of Graduate Student:_____

Name of advisor or co-advisors:_____

Date of last advisory committee meeting?_____

Number of semesters of graduate work at Sam Houston State University on this degree at the end of present semester: _____

Number of semesters on TA support at the end of the present semester?

Contract: _____ Hourly: _____

Indicate each of the following that apply. Supply any helpful additional information.

Yes No

1. The student has selected an advisor and filed form.

2. The student has formed an advisory committee and filed form.

3. The student has completed and submitted the prospectus.

4. The student has completed the comprehensive exam.

5. The student regularly attends seminar.

6. The student regularly attends society meetings and presents research.

7. The student has submitted any papers for publication.

List all society meetings attended, all presentations (oral or poster) given, and all papers submitted for publication.

_____

_____

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_____

List all outreach projects or other services performed.

_____

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Section 2: Summary of progress made towards completion of degree (TO BE COMPLETED BY THE STUDENT)

Please be specific and address any advancements or setbacks experienced during semester.

_____

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Signed:_____ Date:_____

Graduate Student

Section 3: Advisor evaluation of student progress (TO BE COMPLETED BY THE ADVISOR)
Indicate one of the following that best describes the student's progress:

Yes No 1. Progress is satisfactory

Comments for justification of ranking:

_____

_____

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_____

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_____

Signed:_____ Date:_____
Advisor /Co-Advisor

Section 4: Instructor evaluation of student progress as a teaching assistant (TO BE COMPLETED BY THE INSTRICTOR FOR WHICH THE STUDENT IS TEACHING)

Indicate one of the following that best describes the student's progress as a teaching assistant:

Yes No 1. Progress is satisfactory

Comments for justification of ranking:

_____

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Signed:_____ Date:_____

Instructor of teaching assistant

CHECKLIST FOR MS CANDIDATES IN THE BIOLOGICAL SCIENCES
(TO BE KEPT IN STUDENT FILE) NAME _____

	Task	Date	Signature
1.	Obtain copy of Departmental Graduate Handbook	_____	_____
2.	Meet with Graduate Advisor for course selection	_____	_____
3.	Major Advisor selected	_____	_____
4.	Major Advisory Committee established	_____	_____
5.	Declaration of Official Major/Minor	_____	_____
6.	Submit forms for transfer/undergraduate credits	_____	_____
7.	Advisory Committee meeting—year one	_____	_____
8.	Advisory Committee meeting—year two	_____	_____
9.	File degree application for graduation	_____	_____
10.	Comprehensive exam scheduled	_____	_____
11.	Comprehensive exam completed	_____	_____
12.	**MS Students:**		
	IACUC or IRB Forms submitted	_____	_____
	Thesis prospectus approved	_____	_____
	Enroll in BIO 699	_____	_____
	Public seminar of thesis research scheduled	_____	_____
	Thesis seminar and defense completed	_____	_____
	Thesis approved	_____	_____