I. Description

II. Graduate Faculty

III. Committee on Graduate Studies (COGS)

IV. General Requirements for Graduate Students
   a. Requirements for Admission
   b. Course Requirements
   c. Grade Requirements
   d. Exemptions from Required Course Work
   e. Student Evaluations

V. Specific Degree Requirements
   a. Sequence for Students Working Toward the M.S. Degree
   b. Formal Approval of Supervising Thesis Committee
   c. Presentation of Thesis Proposal
   d. Admission to Candidacy

VI. Awarding of M.S. degree
   a. Final Thesis Defense
   b. Thesis
   c. Awarding of the Degree
   d. Time to Completion of Degree Requirements

VII. Exceptions to Guidelines

VIII. Links to GSBS Forms

IX. Terminating from UTHSCSA and the Department

Attachments
Attachment A: List of Graduate Faculty
Attachment B: Committee on Graduate Studies (COGS) – Functions and responsibilities
Attachment C: Academic Plan of Study (Anatomical Sciences Track)
Attachment D: Academic Plan of Study (Biotechnology Track)
Attachment E: Supervising Committee Evaluation Forms
Attachment F: Mentor Selection Form
Attachment G: GSBS Form 42: Composition of Supervising Committee
Attachment H: GSBS Form 40: Request for Final Defense
Attachment I: Scheduling of Final Oral Defense
Attachment J: Form for Committee Approval of Thesis Proposal
Attachment K: GSBS Form 31: Petition for Admission to Candidacy for the M.S. degree
Attachment L: GSBS Form 41: Report on Final Oral
Attachment M: Other Forms required for Graduation
Attachment N: Separation Form
Attachment O: Graduate Faculty Review Form
I. DESCRIPTION
The M.S. Degree Program in the Department of Cell Systems & Anatomy (hereinafter referred to as the Program) offers training in the areas of anatomical sciences and biotechnology. The curriculum prepares students seeking a Master of Science degree for a fulfilling biomedical career, in academic, industrial or clinical settings. The overall mission of the Program is to prepare the next generation of life-long learners and critical thinkers, prepared to design and execute innovative basic and translational research, and to address the most important and challenging knowledge gaps in basic biology, human health and disease. There are two parallel tracks in the Program: Anatomical Sciences and Biotechnology with some overlapping requirements but distinct curricula. The program of graduate study (i.e. the track elected) leading to the Master's Degree will depend upon the student and the professional career for which the student is preparing. A Committee on Graduate Studies (COGS) oversees all aspects of Program (see Section III below).

II. GRADUATE FACULTY
All tenured and tenure-track faculty with primary appointments in CSA are eligible to participate and mentor students as Supervising Professors in the Program. Non-tenure track teaching faculty with primary appointments in CSA can mentor M.S. students in the Anatomical Sciences track. Research track faculty appointed in CSA can participate as graduate faculty and supervise students in the Biotechnology track if the following conditions are met: (i) prior permission of their Principal Investigator and approval of COGS, if the faculty member is an independent investigator he or she only needs approval from COGS; and (ii) have a funded and active extramural or intramural grant that can sustain the costs associated with mentoring a student. Collectively, the mentoring faculty shall be referred to as Graduate faculty. A list of current approved Graduate Faculty is appended in Attachment A. COGS will review the Graduate Faculty rosters annually at the end of May. Continuing status as a graduate faculty member will be considered every three years. Approval for continued participation will be dependent on, but not limited to, demonstrated involvement in teaching courses taken by students in the Program, service as Supervising professor or thesis committee membership, service as member of COGS, etc. It is the responsibility of the Graduate Faculty to submit documentation of participation when requested by COGS. Failure to do so may result in termination of Graduate Faculty status.

III. COGS
COGS is comprised of a group of faculty appointed by the Program Director (COGS Chair) or selected by the COGS Chair to administer various aspects of the Graduate Program, including admissions and monitoring of student academic progress. The COGS consists of the Chair, the Biotechnology Track Student Advisor, Admissions Committee Co-Chairs, Anatomical Sciences Thesis Chair, Student Seminar Chair, Awards Committee Chair and the Director of Education for the Department. The functions of these individuals are listed in Attachment B. The Department Chair, who is also the Program Director, serves in an ex-officio capacity and has the same rights and privileges, as do all other members, including, the right to vote. All members are counted in determining presence or absence of a quorum at meetings. Where necessary, decisions will be made by a simple majority vote of all members of COGS.
IV. GENERAL REQUIREMENTS FOR GRADUATE STUDENTS

a. Requirements for Admission
Students beginning graduate study ordinarily matriculate during the fall semester, which starts first week of July with classes beginning in August. Completed applications, including scores on the Graduate Record Examination (GRE) Aptitude Test, certified transcripts of all college and/or postgraduate work, a letter from the applicant stating his/her objectives in graduate study, and three letters of recommendation from faculty and/or individuals with similar professional credentials who served as instructor, advisor or supervisor to the applicant, should be received by the preferred date of February 1 but no later than March 31st to be considered for admission the following fall semester. Spring semester admission (January start date) will not be considered except in very unusual circumstances.

The following are the basic admission criteria for the Program. On a case-by-case basis and at the discretion of the M.S. Admissions Committee and with approval of COGS and the Graduate Faculty Council (GFC), one or more admission requirement(s) may be waived.

- A baccalaureate degree in a natural science and/or biomedical engineering from an accredited institution in the United States or proof of an equivalent degree from a foreign institution.
- Undergraduate credit for the following: i) Biology: a minimum of two years of general biology with labs for science majors; ii) Chemistry: a minimum of two semesters of general chemistry (analytical chemistry or biochemistry recommended); iii) Physics: minimum of two semesters of general physics; and iv) Mathematics: a minimum of one semester of calculus.
- A cumulative grade point average (GPA) no lower than “B” (3.0 on a scale of 4.0) on all undergraduate-level studies undertaken previously.
- A combined verbal and quantitative GRE score $\geq 308$ (160 verbal, 148 quantitative) (old scoring system, $\geq 1,200$; 600 verbal, 600 quantitative) is recommended although the Graduate School enforces no specific minimum and no absolute score guarantees admission. Scores on the GRE must have been obtained less than five years from the date of first application. MCAT and DAT scores can substitute for GRE scores on a case-by-case basis (approval by COGS required).
- A minimum score of 220 on the computerized Test of English as a Foreign Language (TOEFL) (paper test: 550; iBT: 68) or of 6.5 on the International English Language Testing System (IELTS), for applicants from countries where English is not the native language. Scores on TOEFL or IELTS must have been obtained no more than two years prior to the date of matriculation.
- Letters of recommendation (three from faculty) attesting to applicant’s readiness for graduate level studies.
- Essay stating applicant’s reasons for wanting to pursue graduate studies in biomedical sciences, description of professional goals and an outline of their undergraduate and/or summer research, teaching experience and/or other relevant experiences are required.
- Track to which the applicant is seeking admission.

b. Course Requirements
All students require a minimum of 30 semester credit hours (SCH) to graduate with a M.S. degree. See attached Academic Plans of Study - Attachment C (Anatomical Sciences track) and Attachment D (Biotechnology track) for details of required and elective coursework.
c. Grade Requirements
A student must maintain an overall cumulative grade point average (GPA) of $\geq 3.0$ (“B” average) each semester to continue in good academic standing. If a student receives a grade that is worse than a “C” in one course or final grades of “C” in more than one course in the curriculum, he/she shall be dismissed from the Program unless an appeal from the student is approved by COGS. If the cumulative GPA drops below 3.0, the student shall be placed on academic probation. While on probation, a student must maintain a “B” average in all courses in which he/she is enrolled. If the GPA drops below 3.0 in any semester during the probationary period or remains below 3.0 for one calendar year, the student shall be dismissed from the Program unless an appeal from the student is approved by COGS. For the required courses the student must make a “B” or better and/or receive a satisfactory in courses graded satisfactory “S”/unsatisfactory “U”.

If remediation of a course is agreed upon by a course director and COGS, the director(s) of a required course will determine the mechanism for remediation. However, course directors are not required to remediate students. Situations that involve potential remediation will be resolved on a case by case basis. A student who is not required to remediate a required course may not engage in the remediation process with the intent of improving his/her original grade. This policy will be reviewed annually.

d. Exemptions from Required Course Work
All requests for exemptions for any of the required course work must be submitted in writing to the Chair of COGS and be approved by a vote of COGS.

e. Student Evaluations
The Student Advisor will conduct semi-annual evaluations of each student for the purpose of following his/her progress throughout the tenure of the graduate program. These evaluations are to take place at the end of the fall and the spring semesters of each academic year. A grade of satisfactory (“S”) or unsatisfactory (“U”) shall be given by the Student Advisor and will be reported as the grade for Research (CSBL 6097) or Thesis (CSBL 6098) for students in the Biotechnology track. Likewise, the Anatomical Sciences Thesis Chair will assign a grade of “S” or “U” as the grade for Anatomical Sciences Thesis (CSBL 6060). In all cases, the grade will be based on reports from the laboratories in which a student has rotated, laboratories in which a student is working on thesis research or on student participation in required course work, seminars, journal clubs and other departmental activities. After appointment of the supervising committee, the grade for the Thesis will be based on updates presented to the committee members at semi-annual committee meetings. The form for committee member’s evaluation of student’s progress is appended as Attachment E. If a committee meeting has not been held within 6 months, a grade of “U” will be assigned for progress that semester. However, if the student has already scheduled a committee meeting, the Student Advisor has the option of giving a grade of “I” (incomplete). Failure of a student to show satisfactory progress toward his/her degree goal based on these evaluations is grounds for dismissal from the Program unless COGS approves a student appeal. In addition, The Graduate School’s policy that any student who receives two consecutive “U” grades will be subject to dismissal also holds.

V. SPECIFIC DEGREE REQUIREMENTS
a. Sequence Toward the Master’s Degree
During the first semester of study, the Biotechnology Student Advisor or Anatomical Sciences Thesis Chair will serve as academic advisor for all students in the Program. During this time, each student shall take the required courses indicated in the plan of study. Upon an agreement between the student and a graduate faculty, that usually happens after a rotation in the faculty’s laboratory, a student will choose a Supervising
Professor/Mentor and a mentor selection form will be completed (Attachment F) that must then be approved by both the COGS Chair and Program Director. For Biotechnology students this form must be completed by November 1 of the first year of your program and for Anatomical Science students the form must be completed by April 30 of the first year of your program. Members of the Supervising Committee (see below) should also be selected no later than the first semester of the second year so that they may assist in formulation and review of a proposal for the thesis. The thesis proposal should be prepared, where possible, early in the second semester of the first year. After the Supervising Professor and members of the Supervising Committee have approved the final draft of the proposal, the student will formally present the proposal to the members of COGS in a short (10-15 minutes) presentation to be given no later than the end of the first semester of the second year. Copies of the proposal must be forwarded to the Academic Coordinator for distribution to all members of COGS at least one week before the presentation. It is the responsibility of the student and primary mentor to have the proposal delivered on time. Failure to do so will result in rescheduling the presentation to COGS. After the presentation, members of COGS will vote to accept the proposal as is or stipulate conditions for acceptance.

The student and his/her Supervising Professor will provide COGS the names of the members of the student’s Supervising Committee (see also Section V [b]). The committee shall consist of the Supervising Professor (Thesis Advisor), Biotechnology Student Advisor, Anatomical Science Thesis Chair who shall act as chair, at least two members of the Graduate Faculty in CSA, and one individual who is a member of another graduate program (and outside of CSA) from within the Health Science Center (GSBS Form 42; Attachment G). Members of COGS will vote to accept the Supervising Committee as is or recommend additional members and/or changes to the composition. Once COGS approves the thesis proposal and the Supervising Committee, the student will be automatically recommended to the Dean of the Graduate School for admission to M.S. candidacy. After admission to candidacy, all students must register for at least one semester of thesis hours prior to graduation. A student in the Biotechnology track must enroll in CSBL 6098 (Thesis) and an Anatomical Sciences track student must enroll in CSBL 6060 (Anatomical Sciences Thesis) for the final semester. The Supervising Committee shall continue to guide the student in selection of any additional courses and in the student’s research activities or preparation of the library paper.

After the proposal has been approved and the student admitted to candidacy, the Supervising Committee shall hold regularly scheduled meetings with the candidate at least twice a year (or more often if necessary) to determine progress on the thesis project. At the meetings, the committee members shall evaluate work conducted to date and recommend any additional studies to be undertaken. Each member shall complete an evaluation form for the student (see Attachment E). It is the student’s responsibility to give the M.S. Student Advisor the completed and signed forms in a timely manner. If any member of the committee cannot attend a meeting, the student must apprise him/her of the student’s progress at the earliest possible opportunity.

When the Supervising Committee is satisfied that research being conducted towards the thesis is near completion, it shall permit the scheduling of a defense in which the scholarly activity is presented first in a seminar, open to the public which is then followed by a defense in a closed oral examination in front of the Supervising Committee (and any member of COGS that chooses to participate). Members of the committee will signify their permission by completion of GSBS Form 40 (Attachment H). The student and mentor are responsible for scheduling a mutually agreeable time for the committee. The Academic Coordinator manages scheduling of rooms for seminars and oral examinations through the Graduate School Office (see Attachment I) and sends out announcements to all Graduate Faculty and students about upcoming public defenses.
It is the responsibility of the student and mentor to get the title of the presentation to the Academic Coordinator at least two weeks prior to the defense.

**b. Formal Approval of Supervising Thesis Committee**

The Supervising Committee must consist of:

i.) the MS student advisor (Biotechnology Student Advisor)/(Anatomical Science Thesis Chair) will chair the committee. The role of the Chair is to maintain consistency of standards for student performance.

ii.) Supervising Professor and at least two other faculty members from the Graduate Faculty. For Anatomical Sciences Track students, co-Supervising Professors (one on tenure/research track and one on teaching track).

iii) One faculty member from another graduate program within the University of Texas Health Science Center, San Antonio and with a primary appointment in a different department at the institution

Any exceptions to this prescribed committee structure must be justified in a memo to the COGS Chair from the student and his/her supervising professor. These requests will be reviewed by COGS and must be approved by a unanimous vote. The first duty of the Supervising Committee will be to assist the student in the planning of his/her project and in the preparation of a thesis proposal to be presented to COGS. It is the responsibility of the Supervising professor to discuss the composition of the committee members with the Supervising Committee Chair.

The Supervising Committee shall meet as a group with the student at least twice a year. No later than one week prior to each meeting, the student shall submit to the committee a report of progress on the research, including statements of objectives of the research, methods, major results obtained, conclusions drawn, and proposed direction of future (remaining) work. The Supervising Committee shall evaluate the progress made by the student since the last meeting as well as overall progress to date and agree on the direction of future work to be undertaken. Each member shall complete an evaluation form for M.S. students (see Attachment E). It is the student’s responsibility to give the completed and signed forms to the M.S. Student Advisor in a timely manner. The committee shall also decide when the progress is sufficient to permit the student to commence with writing of the thesis.

**c. Presentation of Thesis Proposal**

The proposal for students in the Biotechnology track shall consist of:

A. Hypothesis
B. Specific Aim(s)
C. Significance (background and rationale)
D. Experimental Design, Data Analysis and Expected Results
E. Literature Cited
F. Use an Arial, Helvetica, Palatino Linotype, or Georgia typeface, a black font color, and a font size of 11 points or larger. (A Symbol font may be used to insert Greek letters or special characters; the font size requirement still applies.)
G. Type density, including characters and spaces, must be no more than 15 characters per inch.
H. Type may be no more than six lines per inch
I. Paper Size and Page Margins Use standard paper size (8 ½" x 11).
J. Use at least one-half inch margins (top, bottom, left, and right) for all pages. No information should appear in the margins, including the PI’s name and page numbers.
K. Page Formatting: Since a number of reviewers will be reviewing applications as an electronic document and not a paper version,
applicants are strongly encouraged to use only a standard, single-column format for the text. No two-column format since it can cause difficulties when reviewing the document electronically.

L. Do not include any information in a header or footer of the attachments. A header will be system-generated that references the name of the PD/PI. Page numbers for the footer will be system-generated in the complete application, with all pages sequentially numbered.

M. Figures, Graphs, Diagrams, Charts, Tables, Figure Legends, and Footnotes: You may use a smaller type size but it must be in a black font color, readily legible, and follow the font typeface requirement. Color can be used in figures; however, all text must be in a black font color, clear and legible.

N. Number of Pages: Title Page, Abstract/Project Summary Page: This section must be no longer than 30 lines of text, and follow the required font and margin specifications, Specific Aims: 1 page, and Research Strategy: 6 pages following with the references.

The proposal for students in the Anatomical Science track may use the same format that Biotechnology students utilize or use the format below:

A. Background

B. Recent progress

C. Significance/unanswered and important questions to be addressed

D. Literature Cited

E. Use an Arial, Helvetica, Palatino Linotype, or Georgia typeface, a black font color, and a font size of 11 points or larger. (A Symbol font may be used to insert Greek letters or special characters; the font size requirement still applies.)

F. Type density, including characters and spaces, must be no more than 15 characters per inch.

G. Type may be no more than six lines per inch

H. Paper Size and Page Margins Use standard paper size (8 ½" x 11).

I. Use at least one-half inch margins (top, bottom, left, and right) for all pages. No information should appear in the margins, including the PI’s name and page numbers.

J. Page Formatting: Since a number of reviewers will be reviewing applications as an electronic document and not a paper version, applicants are strongly encouraged to use only a standard, single-column format for the text. No two-column format since it can cause difficulties when reviewing the document electronically.

K. Do not include any information in a header or footer of the attachments. A header will be system-generated that references the name of the PD/PI. Page numbers for the footer will be system-generated in the complete application, with all pages sequentially numbered.

L. Figures, Graphs, Diagrams, Charts, Tables, Figure Legends, and Footnotes: You may use a smaller type size but it must be in a black font color, readily legible, and follow the font typeface requirement. Color can be used in figures; however, all text must be in a black font color, clear and legible.

M. Number of Pages: Title Page, Abstract/Project Summary Page: This section must be no longer than 30 lines of text, and follow the required font and margin specifications, Specific Aims: 1 page, and Research Strategy: 6 pages following with the references.
After the written version is completed, the student's committee must first approve the proposal. Then the student shall present the thesis proposal to COGS no later than the end of the first semester of the second year in the Program. Two weeks before the seminar, the student shall provide a written copy of the proposal and the signed approval sheet (Attachment J) to the COGS Chair. COGS will discuss and the student will defend the proposal. The Supervising Professor should be in attendance. At the end of the discussion, the student shall be asked to leave the room and COGS shall vote for approval or disapproval of the thesis proposal. The composition of the Supervising Committee will then be discussed, and approved/disapproved by vote of the COGS. The student shall be informed of the votes immediately after and any changes required by COGS shall be transmitted. After approval, the thesis proposal shall be forwarded to the Dean’s Office for approval by the GFC.

In cases where the thesis proposal is not approved, members of COGS will meet with the student and his/her supervising professor immediately after their deliberation to present the reasons for the decision. Based on this input, the student shall present a revised or new proposal (as required) to the COGS within one month or in exceptional cases, within a time period as specified by COGS. Failure to successfully defend the second time may result in dismissal.

**d. Admission to Candidacy**

After the student has successfully presented a thesis proposal to COGS, and removed all “I” (Incomplete) grades from his/her record, the form recommending his/her admission to candidacy (GSBS Form 31; Attachment K) will be submitted to the Dean of the Graduate School for presentation to the GFC for admission to M.S. candidacy. For the Biotechnology track, the student will thereafter register for Thesis (CSBL 6098) instead of Research (CSBL 6097) hours. All students shall remain in residence in the Program and participate in all activities normally required of full time graduate students until the thesis is completed and the Final Defense (public seminar and closed oral examination) has been conducted.

**VI. AWARDING OF THE M.S. DEGREE**

**a. Final Thesis Defense**

The instructions for preparation and submission of the thesis should be obtained from the Graduate School of Biomedical Sciences Dean’s Office. Failure to have your thesis in the required format will delay your conferral date. A student may opt to utilize either the traditional thesis format or the optional chapter format. The Supervising Committee shall conduct the Final Defense. Ordinarily, the examination will be preceded by an open seminar at which the candidate’s research findings are presented to the public. All interested persons may attend. This presentation should not exceed 50 minutes. Immediately following the presentation, the members of the audience, excluding the Supervising Committee members, shall be given the opportunity to ask questions. After a reasonable length of time or when all the questions have been exhausted, the audience will be excused. The examination shall then continue with the Supervising Committee and the candidate only. Following completion of the examination, the Supervising Committee shall vote on the candidate’s performance. More than one negative vote shall constitute failure. In the event of a failing performance, the committee shall make recommendations to COGS regarding the appropriateness of another oral examination after major revision of the thesis (only one is allowed) or Failure. COGS shall vote on acceptance or rejection of these recommendations while reserving the right to impose additional or new recommendations.

**b. Thesis**

The typing of drafts and the final copy, collating and proof reading of a thesis are the responsibility of the student. The departmental administrative staff shall not perform any of the above as part of its regular duties. A final copy of the thesis, ready for binding,
must be submitted to the Chair of COGS for the Program. A hard copy of the thesis will be kept in the Department. The Supervising Professor is entitled to request a bound copy of the accepted thesis.

c. Awarding of the Degree
Once the COGS Chair has verified that all requirements for the M.S. degree have been satisfied, the COGS Chair forwards the report of the Supervising Committee on the Final Defense (GSBS Form 41: Attachment L) to the Graduate Dean’s Office. After final verification by the COGS Chair, Biotechnology track students must submit the final copy of their theses and all other relevant and supportive documents (Binding, Library Disclaimer: Attachment M) to the Graduate Dean’s Office. Anatomical Sciences track students must submit the final copy of their theses to the Academic Coordinator’s Office; all other supportive information must be forwarded to the Graduate Dean’s Office. The COGS Chair then presents the recommendation of COGS for the award of the degree to the GFC.

d. Time to Completion of Degree Requirements
M.S. students are expected to complete all degree requirements, including the defense, in approximately two years of full-time studies from date of matriculation. During the design of the thesis proposal, it is important for the student and Supervising Professor to plan for a two-year time frame from entry into the Program until successful defense. Supervising Professors mentoring students requiring more than two years to complete the thesis will be expected to seek approval from COGS for a time extension at least two months before the end of the student’s fourth semester in the Program.

VII. EXCEPTIONS TO THE GUIDELINES

Any requested exception to the Guidelines shall be voted upon and approved by COGS.

VIII. LINK TO GSBS FORMS

http://gsbs.uthscsa.edu/current_students/forms

IX. TERMINATING FROM DEPARTMENT and UTHSCSA

Once the student departs from the Department and UTHSCSA (Attachment N) separation form will need to be completed for the department. In addition to the departments form students must go in person to the registrar’s office and pick up a clearance form.