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    b. Seminars and Journal Clubs
    c. Annual Student Research Forum

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Note: Please see the Biomedical Science Graduate Program and School of Graduate Studies websites for required forms.
1. Overview of the Biomedical Science Graduate Program

The Biomedical Science Graduate Program is intended for students of exceptional ability and interest who are preparing for careers in teaching and research in biomedical science. A unique feature of the program is its centralized admission policy in which students are admitted to the Biomedical Science Program rather than to a particular department. This approach allows students to explore a variety of fields through interdisciplinary course work and laboratory experiences and to make a more educated choice when selecting a specialized research program. For those students who have decided on a defined research interest, the program is flexible and allows them to move quickly into the laboratory and accelerate their study.

All students receive a broad-based training in modern biomedical research through an interdisciplinary core curriculum that covers the basic knowledge and skills necessary for research in all areas of the biomedical sciences. A program of flexible laboratory rotations allows students to become familiar with the individual laboratory environment of different faculty before choosing an advisor. There are currently over eighty faculty, from seven departments, participating in the graduate program. Once chosen, the faculty advisor assists the student in planning additional specialized course work.

The emphasis of the training is on laboratory experimentation that is directed by the faculty advisor. Students learn how to design experiments, interpret data, draw conclusions from the experiments and fit the results into a larger framework of scientific knowledge. In addition to the laboratory research, there are many activities that promote scientific exchange, including journal clubs, seminars and an annual student research forum. Students are also given the opportunity to attend regional and national meetings to present their work and discuss their research with other investigators. Most of our students receive financial support through graduate assistantships which include a stipend and a waiver of tuition and fees. The major requirement for the Ph.D. is the doctoral thesis, the student's original research, which significantly contributes to knowledge and is of sufficient quality to merit publication in a recognized journal. Attainment of the Ph.D. degree normally requires four to five years.
Concentrations in the Biomedical Science Graduate Program

Anatomy
Biochemistry
Microbiology
Pharmacology
Pharmaceutical Sciences
Physiology
Quantitative Biosciences

Departments Participating in the Biomedical Science Graduate Program
College of Medicine
  Basic Science
    Department of Biomedical Science
  Clinical
    Pediatrics
    Internal Medicine
    Obstetrics and Gynecology
    Surgery
    Pathology
College of Arts and Sciences
  Biological Sciences
College of Public Health
  Health Sciences
College of Pharmacy
  Pharmaceutical Sciences

Biomedical Graduate Program Committee
Dr. Antonio Rusinol – Biochemistry
Dr. Jennifer Hall – Microbiology
Dr. Brooks Pond – Pharmaceutical Science
Dr. Alok Agrawal – Pharmacology
Dr. Brian Rowe – Physiology
Dr. Tom Jones – Quantitative Biosciences
Dr. Gregory Ordway – Research
Dr. Mitch Robinson – Chair
# 2. Administration and personnel

## a. Administrative personnel
- The following is contact information for those involved in administration of the program.

<table>
<thead>
<tr>
<th>The James H. Quillen College of Medicine</th>
<th>William A. Block, Jr., MD, MBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO Box 70571</td>
<td>Interim Dean of the College of Medicine</td>
</tr>
<tr>
<td>Phone: 423.439.6327</td>
<td>e-mail: <a href="mailto:deanofmedicine@etsu.edu">deanofmedicine@etsu.edu</a></td>
</tr>
<tr>
<td>Fax: 423.439.8004</td>
<td></td>
</tr>
<tr>
<td>E-mail: <a href="mailto:medcom@etsu.edu">medcom@etsu.edu</a></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The School of Graduate Studies 920 W. Maple Street</th>
<th>Sharon J. McGee, Ph.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO Box 70720</td>
<td>Dean of the Graduate School</td>
</tr>
<tr>
<td>Phone: 423-439-4221</td>
<td>e-mail: <a href="mailto:mcgees@etsu.edu">mcgees@etsu.edu</a></td>
</tr>
<tr>
<td>E-mail: <a href="mailto:gradsch@etsu.edu">gradsch@etsu.edu</a></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rickie Carter</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Program Specialist</td>
<td>Office Phone: (423) 439-6165</td>
</tr>
<tr>
<td></td>
<td>E-mail: <a href="mailto:carterrh@etsu.edu">carterrh@etsu.edu</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Biomedical Science Graduate Program</th>
<th>Mitchell Robinson, Ph. D</th>
</tr>
</thead>
<tbody>
<tr>
<td>B040 Stanton-Gerber Hall</td>
<td>Associate Dean and Director</td>
</tr>
<tr>
<td>PO Box 70407</td>
<td>e-mail: <a href="mailto:robinson@etsu.edu">robinson@etsu.edu</a></td>
</tr>
<tr>
<td>Fax: 423-439-2140</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lana A. Cook, Ph.D.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Coordinator</td>
<td>Tel: (423) 439-2031</td>
</tr>
<tr>
<td></td>
<td>e-mail: <a href="mailto:cookla1@etsu.edu">cookla1@etsu.edu</a></td>
</tr>
</tbody>
</table>

**Graduate Program Committee** The committee includes representatives from each of the concentration areas. Members are approved by department chairs and the Dean of the College of Medicine for three year terms. The responsibilities of the committee are to:

1. Serve as the admissions committee for the Biomedical Science Graduate Program.
2. Develop and revise the Biomedical Science Graduate Program curriculum.
3. Make recommendations on a consistent and streamlined academic program for all graduate students.
4. Work with the Associate Dean for Graduate Studies on matters concerning recruitment, student advisement and financial assistance policies.
3. Making the best of graduate school

What you should expect of us:

The Biomedical Science Graduate Program has as its primary mission the provision of graduate study and research training opportunities for degree-seeking students wishing to study in an interdisciplinary environment and desiring to achieve intellectually stimulating careers as productive biomedical scientists.

We are committed to:
1. Providing quality graduate programs consistent with freedom of inquiry and student welfare.
2. Recruiting and retaining excellent graduate students, including minority students, from a large pool of candidates.
3. Financially supporting graduate students competitively with other institutions.
4. Providing access of students to highly skilled faculty in adequately staffed graduate programs.
5. Making supportive academic counseling and research mentoring available to students.
6. Furnishing course and laboratory work in the biomedical sciences that yields a productive graduate educational experience.
7. Ensuring engagement of students in a high quality research program under the supervision of a mentor and committee of graduate faculty.

What we expect of you:

Students in the program are expected to:
1. Attend - It is very important that students attend classes. In addition, regular attendance at research activities in the College of Medicine is expected of all graduate students. Make sure you are aware of seminars and attend whenever possible. It is very important to support your fellow students when they present their research at seminars and during their thesis and dissertation defenses.
2. Interact - Success in most undergraduate courses is entirely dependent on doing well on the exams and written assignments and class time is, for the most part, devoted to listening to the instructor and taking good notes. In graduate school, success also requires that students actively participate in class. Classes are small and interactive and most include a participation component as part of the final grade.
3. Be involved - The College of Medicine and the university offer many ways for students to be involved in organized activities such as the Biomedical Science Graduate Student organization, journal clubs, study groups, etc.
4. Get in the lab - Perhaps the most important single thing you have to do in the first year is to select a laboratory and research advisor and begin your research project. Make the most of your rotations and get involved in research as soon as possible.
5. Get help - Let someone know if you have a problem. Several sources of support and advice are available for students.
4. Curriculum

a. Ph.D. degree requirements
The following are the curriculum requirements for the Ph.D. in Biomedical Science.

<table>
<thead>
<tr>
<th>Curriculum component</th>
<th>description</th>
<th>credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core curriculum</td>
<td>see below</td>
<td>22 credits</td>
</tr>
<tr>
<td>Concentration¹</td>
<td>advanced electives</td>
<td>9 credits</td>
</tr>
<tr>
<td>Guided Electives²</td>
<td>seminar courses</td>
<td>4 credits</td>
</tr>
<tr>
<td>General Electives³</td>
<td>other electives</td>
<td>4-10 credits</td>
</tr>
<tr>
<td>Other</td>
<td>Dissertation Research</td>
<td>15-21 credits</td>
</tr>
<tr>
<td>Total</td>
<td>Total</td>
<td>60 credits</td>
</tr>
</tbody>
</table>

¹ Students must complete at least three advanced elective courses. Advanced courses include those with a minimum of three credits and exclude laboratory and research courses such as special problems, special topics, readings and research and dissertation research.

² Departmental seminar courses: ANCB 6200, BIOC 6200, PHAR 6200, PHYS 6200, MICR 6200

³ General electives may include laboratory and readings (e.g. special topics, special problems, readings and research) as well as didactic courses.

Example Ph.D. curriculum

<table>
<thead>
<tr>
<th>Year 1</th>
<th>course work (credit hours)</th>
<th>laboratory</th>
<th>advisory / academic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Semester</td>
<td>BMS-1 (3)</td>
<td>Biometry (3) Sci. Comm I (1) Into Biom Res (1)</td>
<td>tours of departments and faculty presentations</td>
</tr>
<tr>
<td></td>
<td>BMS-2 (3)</td>
<td>Lab Rotation # 1</td>
<td></td>
</tr>
<tr>
<td>Spring semester</td>
<td>BMS-3 (3)</td>
<td>Lab Rotation # 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BMS-4 (3)</td>
<td>Lab Rotation # 3</td>
<td></td>
</tr>
<tr>
<td>Summer</td>
<td>independent research</td>
<td>selection of research advisor</td>
<td></td>
</tr>
<tr>
<td>Year 2</td>
<td>concentration requirements and advanced course work</td>
<td>independent research</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------</td>
<td>----------------------</td>
<td></td>
</tr>
<tr>
<td>Fall semester</td>
<td>Sci. Comm II (1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Spring semester | concentration requirements and advanced course work | independent research |

| Summer | independent research | advisory committee dissertation prospectus |

| Year 3 | advanced courses if necessary | independent research | qualifying exam |

| Year 4 and beyond | research / dissertation | independent research | seminar dissertation preparation and defense |

*a offered in alternate years
*b option

b. Core curriculum

<table>
<thead>
<tr>
<th>core curriculum courses</th>
<th>credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOM 6010 Biomedical Science I - The Molecular Organization of Cells</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 6020 Biomedical Science II - Gene Expression and Regulation</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 6030 Biomedical Science III - Cellular Anatomy and Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 6040 Biomedical Science IV - Cell and Organ Interactions</td>
<td>3</td>
</tr>
<tr>
<td>MDED 6010 Biometry and Biomedical Computing I</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 6210 Scientific Communication I</td>
<td>1</td>
</tr>
<tr>
<td>BIOM 6220 Scientific Communication II</td>
<td>1</td>
</tr>
<tr>
<td>BIOM 6110 Introduction to Biomedical Research</td>
<td>1</td>
</tr>
<tr>
<td>BIOM 6120 Research Laboratory Rotations</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 6300 Scientific Ethics</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
</tr>
</tbody>
</table>
c. Registration

Students register for courses each term (Fall, Spring and Summer) through Goldlink. All Graduate Assistants must maintain full time registration; nine credits for the Fall and Spring semesters and six credits for the Summer semester. All course registration should be arranged and approved by the program office. Students should plan ahead and talk with their advisor well before the start of the semester about the courses they plan to take. Before registering for any courses, contact Dr. Lana Cook, who will help arrange a course schedule and provide course registration numbers.

d. Academic Calendar for 2018-2019

<table>
<thead>
<tr>
<th>Academic Dates</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Biomedical Program classes begin</td>
<td>8/27/2018</td>
</tr>
<tr>
<td>Labor day – University closed</td>
<td>9/3/2018</td>
</tr>
<tr>
<td>Fall Break – no classes</td>
<td>10/15/2018 - 10/16/2018</td>
</tr>
<tr>
<td>Veterans Day – University closed</td>
<td>11/9/18</td>
</tr>
<tr>
<td>Thanksgiving Holiday – University closed</td>
<td>11/21/2018 - 11/23/2018</td>
</tr>
<tr>
<td>Last day of classes</td>
<td>12/7/2018</td>
</tr>
<tr>
<td>Final Exams</td>
<td>12/9/2018 - 12/14/2018</td>
</tr>
<tr>
<td><strong>Spring Semester</strong></td>
<td></td>
</tr>
<tr>
<td>First Day of Classes</td>
<td>1/14/2019</td>
</tr>
<tr>
<td>Martin Luther King Day- University closed</td>
<td>1/21/19</td>
</tr>
<tr>
<td>University closed</td>
<td>4/19/19</td>
</tr>
<tr>
<td>Last Day of Classes</td>
<td>4/26/2019</td>
</tr>
</tbody>
</table>
5. Academic requirements

a. Laboratory rotation program - The core curriculum course “Introduction to Laboratory Research” is designed to introduce students to the current research in the biomedical sciences. Departments and interdisciplinary research groups will present a series of short talks describing the research programs of the faculty. Students will meet in different locations and tour the laboratories and facilities. The course is to be completed in the first half of the first semester, coinciding with the duration of BMS1. It should provide students with sufficient knowledge of the research programs of the faculty to enable them to choose faculty for laboratory rotations. Students who have not selected a research advisor should participate in rotations in faculty laboratories. The rotations should last approximately six to eight weeks and be completed, with the selection of a research advisor, before the end of the Spring semester. The first rotation will coincide with the BMS II in the Fall semester and rotations 2 and 3 with BMS III and IV in the Spring semester.

Students should meet with faculty with whom they wish to do a rotation and plan a schedule. Once the rotation has been arranged, the student should complete the rotation assignment form (see website) and return it to the biomedical program office. Students receive credit and a grade for the rotations, through “Introduction to Biomedical Research” or “Laboratory Rotation” courses.

b. Qualifying examination - The qualifying examination will be administered by the advisory committee after the first year and before the end of the third year of continuous enrollment. Successful completion of the examination should demonstrate that the student has obtained a breadth of knowledge in biomedical science, utilizing the information obtained in the core curriculum. The qualifying examination should be similar for all students in the degree program. The student should also demonstrate competence in researching the literature and organizing and presenting information on a topic of current importance. The qualifying exam should also be a learning experience in which specific skills are developed including: writing ability, grant writing expertise, techniques for effective literature searching and oral presentation skills.

The format of the written examination will be a research proposal similar in style to an NIH grant application. The topic should be selected by the student and approved in advance by the committee. The topic should be original and not identical to the intended research. It is important that the committee place constraints on the length and time allowed for writing the proposal. An oral examination should follow soon after successful completion of the written requirement and should involve a defense of the written proposal. The oral examination can be a format for assessing the general knowledge of the student.

The advisory committee is responsible for administering the exam and may modify the requirements within the general framework described above. The following are suggested formats for the written and oral qualifying examinations.

Submission and approval of research proposal topic
Each Ph.D. student will submit to their committee a topic for a research proposal. This need only be a statement or short paragraph to define the subject area. The only restrictions on the proposal topic are: 1) It should not be the same as their intended research topic, and 2) It must be clearly focused so that it will provide significant new information on a problem of limited scope. Although the student is expected to develop the topic for their proposal, they are encouraged to seek out advice on the suitability of possible topics as well as information on the subject. It is expected that the faculty
research and/or academic advisor will give preliminary approval to the topic and make suggestions for modifying the proposal, if necessary. The student's advisor should poll the committee to determine if the topic is acceptable.

**Format and submission of written research proposal**
The student should submit the written proposal to their advisory committee chair within four weeks after the topic is approved. The chairman will submit copies of the proposal to the committee along with the evaluation form and information on the proposal in these guidelines. The proposal should be typed and should not exceed twenty pages (including references). The proposal should be organized into the following sections, which are derived from the application for NIH grants:

1. **Specific Aims**: Briefly state the objectives of the research. List the specific goals and any hypotheses that are to be tested. This section should be no more than one page.

2. **Background and Significance**: Briefly sketch the background of the proposal and evaluate the existing knowledge. Identify gaps in our present knowledge that the research is intended to fill. State the importance of the research as it relates to our present knowledge. Two to three pages are recommended.

3. **Experimental Plan**: Clearly define the research plan including all experimental procedures and techniques to be used. The possible or expected results of the experiments should be described. Discuss potential problems and indicate alternative approaches. The experimental plan should clearly demonstrate how the specific aims are to be achieved. Five to seven pages are recommended.

4. **Literature Cited**: List the references cited in the text using a single scientific journal format. All references should include full titles.

**Grading of written proposal**
Each member of the committee will evaluate the proposal within one week and return the evaluation form to the chair of the committee with a grade of pass, remediate or fail. A critique of the proposal should be attached to the evaluation, regardless of the grade. A grade of "pass" should be given when a student has demonstrated their ability to develop a creative research proposal. The grade of "remediate" is recommended when there is a significant deficiency in the proposal that needs to be addressed, such as an insufficient survey of the literature or a major flaw in the experimental design. The grade of "fail" should be given only when the written proposal is clearly inadequate and indicates that the student needs further training to develop competence in scientific writing. Grades of "remediate" or "fail" should include specific recommendations for rewriting or reexamination. If two or more grades of "remediate" are received (or one remediate plus one fail) the student should schedule a date for resubmission of the proposal. If a student receives two or more grades of "fail" the committee should recommend a time for reexamination. If a grade of "pass" is given (four pass grades) the committee and the student should decide on a time for the oral examination. The student's advisor should ensure that a copy of the written proposal is filed in the graduate office, along with copies of the evaluation forms.

**Oral examination**
The examination is intended to establish the student's ability to orally present and defend a research proposal. Students are expected to be able to apply the information learned in their graduate
education to specific scientific problems. Therefore, students should expect questions that probe their general scientific knowledge as it relates to the subject matter of the research proposal. The committee will convene immediately after the oral examination to determine if the student has successfully passed the examination. If the committee decides against a grade of pass, a time for reexamination should be scheduled.

c. Dissertation prospectus - Ph.D. students should present a prospectus of their dissertation research to their committee before the end of the third year in the program. The prospectus is intended to inform the committee on the course of research that will eventually lead to a dissertation. The prospectus should include an overview of the research area, unanswered questions, a clearly stated hypothesis, and the intended problems to be addressed and expected results. The techniques used should be described in some detail and expected difficulties and alternative experiments should be stated. Preliminary results may be described. The committee will either approve the prospectus or make recommendations for rewriting. The student should use the prospectus presentation as an opportunity to gain advice from the committee on his/her research plans. By establishing specific research objectives, the prospectus will serve as a contract to protect the student. A copy should be submitted to the ETSU graduate office.

It is important for the student to keep the committee informed on the progress of the research before and after the prospectus has been approved. This may involve additional meetings of the entire committee, but, more often, will consist of informal contacts. Major changes in the direction of the research should be brought to the attention of the entire committee.

d. Normal progress toward the degree - Students are expected to maintain "normal progress toward the degree" to ensure that they are moving through the series of steps necessary to obtain a Ph.D. degree at a reasonable pace, and at the level of performance required of all doctoral students. These steps are outlined below and described in detail in the preceding sections. Although the academic advisor and the graduate program office will monitor a student’s progress in the program, it is the responsibility of the student to complete the appropriate steps within the required time frame. Failure to maintain normal progress toward the degree will render students ineligible for financial support and may lead to dismissal from the program.

<table>
<thead>
<tr>
<th>Milestone</th>
<th>expected date of completion or frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of laboratory rotation program</td>
<td>end of first year</td>
</tr>
<tr>
<td>Selection of research advisor</td>
<td>end of first year</td>
</tr>
<tr>
<td>Selection and approval of graduate advisory committee</td>
<td>end of first year</td>
</tr>
<tr>
<td>Completion of oral and written qualifying examination</td>
<td>the end of the third year</td>
</tr>
<tr>
<td>Completion of dissertation prospectus</td>
<td>the end of the third year</td>
</tr>
<tr>
<td>Meetings with committee</td>
<td>At least once per year after committee is formed</td>
</tr>
<tr>
<td>Completion of first seminar requirement</td>
<td>End of third year</td>
</tr>
</tbody>
</table>
e. Preparation and defense of the dissertation - All doctoral candidates must complete a dissertation as a major requirement for the Ph.D. degree. The dissertation topic will be selected by the candidate with the advice and approval of the graduate advisory committee. The student must present a prospectus describing the research project for review and approval by the graduate advisory committee. After the dissertation topic has been researched, written, and accepted by the committee, it must be prepared in the proper form and submitted to the School of Graduate Studies for approval prior to graduation. Please see the Academic Calendar for deadlines. ETSU has approved a requirement for electronic submission. Students must submit dissertations in the format prescribed at the time of submission. Students seeking exemption from electronic submission of the dissertation must be prepared to follow an alternate submission schedule and will be responsible for binding fees and microfilming costs. The School of Graduate Studies publishes a Guide to the Preparation of Theses and Dissertations, which is available in the Graduate Studies Office along with specific guidelines for submission and review of the manuscript.

Students should seek the approval of their advisory committee before beginning thesis preparation. The committee should determine, in advance of thesis preparation that the student has made sufficient progress in their research and has completed a body of experimental data that is a proper foundation for the written thesis. Students should keep in mind that the objective of laboratory research is publication in quality scientific journals. Publications are the best demonstration of research accomplishments and provide an excellent foundation for facile thesis preparation. It is expected that the committee will receive a manuscript that has been thoroughly edited by the student and advisor, rather than an initial "draft" version. This manuscript should be delivered to the committee well in advance (2-3 weeks) of the scheduled thesis defense.

Students will present their research in a seminar, announced at least 2 weeks in advance. Following the seminar the student will defend the dissertation to the advisory committee. The defense must be scheduled with the ETSU graduate office. A member of the graduate faculty from outside the candidate's committee and department must be present at the defense to monitor the process. The procedure to be followed in scheduling an oral defense and the format for the graduate faculty representative's narrative report are available in the Graduate Studies office. The defense must be scheduled according to dates specified in the Academic Calendar published in this catalog and in the Schedule of Classes Bulletin.

f. Intent to Graduate
Students must file an Intent to Graduate Form with the School of Graduate Studies no later than the end of the second week of the semester in which the student expects to complete the requirements for a graduate degree. If the student does not graduate in that term, he or she must complete and submit a new Intent Form before the published deadline.

g. Matriculation Limits
The time limit for the use of credit toward a certificate is four to six years. The time limit for the master's degree is six years. The time limit for completion of the doctoral program by students who began their programs after a bachelor's or master's degree is seven years from the date of enrollment in the earliest course applied toward the degree. Consult the Graduate Catalog for procedures to revalidating course where course content exceeds matriculation limits.
h. Grades
Grades given in the Biomedical Science Graduate Program carry the following meaning and quality points:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Meaning</th>
<th>Standard scale / meaning</th>
<th>Quality points per hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Clear excellence</td>
<td>95 - 100</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td></td>
<td>90 - 94</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>Satisfactory performance</td>
<td>87 - 89</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>84 - 86</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td></td>
<td>80 - 83</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>Minimum passing grade</td>
<td>77 - 79</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>Failed</td>
<td>&gt; 70</td>
<td>2.0</td>
</tr>
</tbody>
</table>

To remain in good standing a graduate student must maintain an overall grade point average of 3.0 (B) or better. Graduate credit will be given for grades of "A", "A-", "B+", "B", "B-", "C+", and "C" in graduate level courses. Graduate credit is not awarded for Pass/Fail grades. Grades of P or F do not count toward degree requirements. All graduate course grades earned at East Tennessee State University by a student will be used in computing the grade point average. An overall average of 3.0 is required for admission to candidacy and for graduation.

Progression standard for students in the Biomedical Science Graduate Program - All students should successfully complete the core sequence Biomedical Science 1, 2, 3 and 4 with no more than one grade below a B-. Students who earn a failing grade in any of the four courses or more than one grade below a B- will not be allowed to continue in the program.

"S," "SP," and "U" Grades - The letter grades of "S" (satisfactory completion), "SP" (satisfactory progress) and "U" (unsatisfactory) are given for Readings and Research, Thesis, and Dissertation. A grade of "S" carries graduate credit and indicates satisfactory completion of the course. "Dissertation research" (15 - 21 credits) is required for Ph.D. students. Degree completion requires an "S" on the most recent hours associated with Thesis/Dissertation. "SP" indicates progress toward project or research completion, but carries no credit. This grade does not affect the student's GPA. Students who receive an "SP" must, in subsequent semesters (including summer), enroll in additional hours of Thesis/Dissertation or Readings and Research until the requirements are completed. The "U" grade carries no credit and indicates unsatisfactory progress toward research or project completion. Students who receive a "U" must enroll for the course the next semester, including summer. The first "U" does not affect the GPA. The second "U" is equivalent to an "F."

Incomplete Grades - A grade of "I" (incomplete) indicates that a student was passing the course at the end of the semester, but due to circumstances beyond the student's control, was unable to complete the course requirement. It also indicates that the student has received consent from the instructor to complete the work for which an "I" is assigned. The "I" grade cannot be used to allow a student to do
additional work to raise a deficient grade or to repeat a course. An "I" grade must be removed no later than one calendar year from the time the grade is awarded. Time extension requests for removal of "I" grades must be submitted to and approved by the Dean of the School of Graduate Studies before the allotted time expires. An "I" grade not removed under the guidelines noted above will be converted to an "F." When an "I" grade converts to an "F" after one calendar year, the GPA is adjusted retroactively consequently, a student may be subject to dismissal without a probationary term. A student cannot withdraw from or drop a course after a grade of "I" has been assigned or after one year has elapsed. To remove an "I" grade, the student must complete the work independently and must not register for the course a second time or attend the same course at a later time in order to complete the course requirements.

Academic Probation - To remain in good standing, a graduate student (degree or non-degree), must maintain an overall grade point average of 3.0 (B) or better on all graduate work attempted. In order to graduate, students must have a minimum 3.0 grade point average overall and on the program of study. When the cumulative grade point average falls below 3.0, the graduate student will be placed on academic probation. If the student does not achieve a 3.0 cumulative grade point average at the conclusion of one probationary semester, the Dean of the School of Graduate Studies and the Biomedical Graduate Program will determine whether the student should be dismissed from graduate study at East Tennessee State University or continued on probation. No student will be allowed more than two probationary semesters, whether consecutive or cumulative. At the end of a second probationary semester a student whose cumulative grade point average is still below 3.0 will be dismissed from graduate study. A student will be removed from probationary status upon attaining a cumulative 3.0 grade point average. When an "I" grade converts to an "F" after one calendar year, the GPA is adjusted retroactively consequently, a student may be subject to dismissal without a probationary term.

Required GPA - In order to graduate, students must have a minimum 3.0 grade point average overall and on the program of study for all degrees.

6. Advisory System

a. Research (dissertation) advisor - Students select a research advisor within the first year of study following completion of the laboratory rotation program. The research advisor will provide a laboratory environment for the student and assume responsibility for their research program and arrange financial support. The research advisor should provide guidance in the selection of a dissertation research project with emphasis on the development of the student's capability for independent research. In addition to guiding the student in the development of specific research skills, the research advisor should: be responsible for the student's overall professional development; provide adequate opportunity for grant and manuscript writing and presentations at scientific meetings; assist in career development by introducing students to researchers in their field and assist the development of the student as a scholar through guidance in areas such as creative thinking, leadership and ethics.

b. Graduate Advisory Committee - Prior to or at the beginning of the second year of study in the Ph.D. program, students will form a Graduate Advisory Committee. The committee will consist of at least five members, with no more than three members from one department. Members will include the research advisor, who will serve as chair and the academic advisor. The committee members will be selected by the student and research advisor and approved by the departmental chair and Associate
Dean for Graduate Studies. The committee will be responsible for overseeing the student’s overall academic program, including the program of study, preliminary examination, advancement to candidacy and preparation and defense of the dissertation. The committee should meet formally with the student at least once each year to review their research and academic progress.

c. Annual student progress report - The Biomedical Graduate Program Committee has approved an annual progress report for all students who have completed one year in the program. The report is intended to monitor students’ progress toward their degrees and to record their activities and accomplishments. The form will be mailed to you and should be filled out electronically. After you have filled out your part of the form, forward it to your advisor. Your advisor should complete their part and return to you. You should add your name as a signature and forward to Dr. Lana Cook (cookla1@etsu.edu).

7. Financial Support

a. Graduate Research Assistantships - The College of Medicine and the Graduate School make available a limited number of graduate research assistantships which are administered through the Biomedical Science Graduate Program. Specific guidelines for graduate assistantships are found in the Graduate Assistant/Tuition Scholar Handbook. Students who receive assistantships must register for a minimum of nine (9) hours during the fall and spring semester and six (6) hours in the summer semester. Most Biomedical Science graduate students on assistantships are on a 12-month appointment. All students who receive graduate assistantships should expect the support to continue throughout their period of study. The expected time for completion of the Ph.D. in the Biomedical Sciences Graduate Program is 4-5 years. Graduate assistants must maintain a cumulative 3.0 grade point average. Graduate Assistantships include support in the form of a stipend and tuition waiver. The current stipend for Ph.D. students is $23,100 per 12 months for students working with faculty in the Colleges of Medicine and Pharmacy and $21,400 for students working in other colleges.

The cost of tuition (maintenance fee) for fall and spring semesters is covered as part of the student’s graduate assistantship. Although there is no provision for payment of summer tuition, this cost is usually covered by the individual faculty advisor or through the departments. In addition, departments may cover the costs of other fees such as the technology fee, access fee and debt service fee. Out of state tuition is also waived for all graduate students who are on assistantships. Although additional fees, such as the campus access fee, debt service fee and activity fee, are not covered by assistantships, these costs may be covered by individual department or grant funds.

Students are eligible for need-based student loans even if they are receiving support through research assistantships. Information is available from the Office of Financial Aid, P.O. Box 70722, ETSU, Johnson City, TN, 37614-1710, or by calling 423-439-4300, 800-704-ETSU (3878), or via e-mail at finaid@mail.etsu.edu. All financial aid is awarded without regard to race, sex, age, or disability. The majority of aid is based on financial need, which is the reasonable cost of education less reasonable support from the family as determined by the federal processor and appearing on the SAR.

b. Program support for student academic travel - Scientific conferences and meetings provide an important educational experience and graduate students are urged to attend and present the results of their research. To encourage student participation in scientific meetings, the program allocates a portion of its annual budget to support the expenses of academic travel. The regular University policy for
allowable travel expenses applies. A written request by the student or their major advisor should be made to Dr. Mitch Robinson, Associate Dean/Director, Graduate Program in Biomedical Science. Priority will be given to students who have been admitted to candidacy in the Ph.D. program and who are presenting a paper at a scientific meeting. The maximum amount is $300 per student, per fiscal year. Any request for funds by students who do not meet these criteria will be reviewed by the Biomedical Graduate Program Committee. Travel authorizations will be submitted and approved by departments. Funds for student travel are also available through the School of Graduate Studies. The maximum amount is $300 and the request must be made to the Dean of the Graduate School.

8. Student Health and Safety

a. Medical services provided by College of Medicine physicians - Full time graduate students in the Biomedical Science Graduate Program are eligible for the services of College of Medicine physicians. This allows the students, as well as their spouses and dependent children, to see physicians who are faculty of the COM at no cost. This does not include laboratory tests, immunizations, medication or hospital charges. Students who visit COM physician offices should identify themselves as students in the graduate program of the College of Medicine.

b. Counseling services for graduate students - Students in the Biomedical Science Graduate Program are eligible for counseling services provided by the College of Medicine. The service that has been used successfully by residents and medical students and recently became available to graduate students and their families. Mr. Phillip Steffey is available to help students suffering from anxiety, depression or simply having difficulty dealing with the stresses of medical or graduate school. He is also available for marriage and relationship counseling. The service is strictly confidential and none of the information is disclosed to administrators. There is no cost to students for the first ten sessions of counseling. Please feel free to make use of this valuable service. Appointments or additional information can be arranged by calling Mr. Steffey at 423-232-0275 or 24 hr pager 854-0342.

c. Clinics - The Student Health Clinic, located in Suite 160 in Roy S. Nicks Hall, is open Monday-Friday, 8 a.m. - 4:30 p.m. The contact number for appointments is 423-439-4225. Service provided by the Student Health Clinic is at no cost. The professional staff of the clinic includes a physician, nurse practitioner and registered nurses. Cooperation with the family physician on treatment of a chronic problem is a part of regular clinic practice. When problems require specialty treatment, students are referred to a physician of their choice or to a specialist in Johnson City. A valid student I.D. card should be presented when visiting the clinic.

The Department of Dental Hygiene offers clinical services, including dental inspection, a dental prophylaxis (scaling and polishing of teeth), preventive treatments (applications of fluorides, pit and fissure sealants and nutritional counseling), preventive periodontal treatment (treatment of minor gum disorders), diagnostic dental X-ray films and nutritional counseling. All clinical services are rendered by qualified dental hygiene students under the supervision of a licensed dentist and are available for a nominal fee. All persons are eligible for treatment, and appointments may be obtained by contacting the clinic receptionist. The Dental Hygiene Clinic is located in room 70 of Lamb Hall, phone: 439-4514.

The Speech and Hearing Clinic, a component of the Department of Communicative Disorders, offers professional services to faculty, students and the general public in the areas of speech and hearing. The areas of service include evaluation, hearing rechecks, hearing aid evaluations, hearing aid analysis,
speech evaluations, and speech therapy. Other services offered through the clinic are: evaluation of hearing acuity, determining the need for hearing aids, recommending appropriate amplification, analyzing hearing aids to determine whether they are functioning properly, teaching speech-reading and working with problems of articulation, language, aphasia, cleft palate, voice, stuttering, and regional and foreign dialect. The clinic is located in room 363 of Lamb Hall, phone: 439-4355.

d. Health Insurance - All full time Graduate Research Assistants in the Biomedical Science Graduate Program are required to have adequate health and accident insurance. Health insurance information for both domestic and international students is available on the University Health Center website at [https://www.etsu.edu/nursing/shserv/](https://www.etsu.edu/nursing/shserv/).

e. Child care services - The Center for Early Childhood Learning and Development in Warf-Pickel Hall operates programs to serve the needs of young children. These programs offer child care services for families. The Infant-Toddler Center serves children ages three months to three years in a full-year, full-day program. The Early Learning Program serves children ages three through five years of age in a full-year, full-day program. Students who are interested in enrolling their children in either of the programs can obtain more information by calling 423-439-4888. Enrollment is on a limited basis.

A childcare program, Little Buccaneers Student Child Care Center, specifically designed to meet the needs of ETSU students opened in June 1997. ETSU students can enroll their children for blocks of time each semester that would accommodate their child care needs while attending classes and during study times. This program is supported by the Student Activities Allocation Committee and ETSU. Information for this program can also be obtained by calling 423-439-7549.

Students majoring in early childhood education, elementary education, special education, nursing, social work, counseling or psychology may find it beneficial to observe in these programs. Graduate assistantships, Academic Performance Scholarships, Federal Work Study Program employment opportunities, student teaching, and practicum positions are also available.

9. Student Services and Campus information

The D. P. Culp University Center is currently closed due to renovation. For the current location of services, visit the Culp Center web site: [Culp 2020: etsu.edu/culp/](https://www.etsu.edu/culp/)

a. Student ID’s - Each student registered for classes on the East Tennessee State University campus must have a picture ID made. These are used for various services offered on the ETSU campus. They are used by the library to check out books, by the Comptroller’s Office to clear and validate fees, they provide free admission to ETSU athletic events, selected University Center programs and discounted prices on selected others. The ID’s are currently made on the first floor of the Center for Physical Activity.

b. Bookstore - The ETSU Bookstore is currently located off-campus at 824 West Walnut Street.

c. Services for International Students - The Office of International Programs, located in room 122 of Yoakley Hall, serves the international community of visiting international students and scholars from more than 60 countries who attend or visit ETSU. Programming, advising, immigration paperwork, community outreach, field trips, Friendship Family Program, and international festivals are among the
many services offered by the Office. Other programs offered by the Office of International Programs include study abroad at our Exchange Universities and domestic exchanges in one of the 160 US, institutions member of the National Student Exchange (NSE) consortium. The contact number is 423-439-7737.

d. Computers - Graduate students have access to computers and internet access in several locations. The Graduate Student Room (room B037) in Stanton-Gerber Hall is equipped with two Dell computers and a laser printer. Computers are also available in the computer testing lab in Stanton-Gerber Hall. Students will also be provided computer access in individual faculty laboratories.

It is highly recommended that students have their own personal computers at home with internet access, where possible. The computer and internet are an integral part of most courses in the graduate program and e-mail is now the standard form of communication. The internet provides access to all course material and many assignments will require the use of the internet to access literature and scientific databases. Classrooms in Stanton-Gerber Hall have internet connections and electrical outlets for use of laptop computers in the classroom.

Computer labs are located in Sherrod Library and the Medical Library. Please see their websites for details and hours.

e. Buildings and Access - Most graduate classes and research activities are now located on the VA campus in Building #119, Building #1 and Stanton-Gerber Hall (Building #178). Students will be issued key cards that activate door locks at selected locations on these buildings for after hour access. For access to Stanton-Gerber Hall, students will also receive keys to the Student Lounge (room B037). Laboratory keys will be provided for access to labs during student rotations.

f. Libraries - Sherrod Library is the central library of the university, containing major learning resources that support the university’s program of teaching and research. The collections of the library include one-half million volumes, over one million microforms, 3,400 current periodical subscriptions, over 336,000 federal and state documents, a map selection, and the archives and special collections. Library materials are easily accessible in an open stack arrangement throughout the four floors of the building. Library instruction and other reader services are available on a group or an individual basis. Coin-operated photocopying machines are located throughout the library.

The Medical Library, located in Building #4 on the campus of the Veterans Affairs Medical Center, Mountain Home, provides access to information which meets the educational, research and patient care needs of students, staff, residents, fellows and faculty of the College of Medicine as well as the local health care community. To fulfill the goals of satisfying informational needs of its clients, the library utilizes CD-ROM databases, such as MEDLINE and Health Plan offers classes on searching medical databases, such as Grateful Med demonstrates the use of educational software programs, such as Slice of Life provides personalized online database searching services and offers interlibrary loans for items not owned by the library. Other services include document delivery, microfilm reading and printing, photocopying, library orientation tours and lectures on historical aspects of medicine. The library’s online public catalog, Magellan, contains monograph, audiovisual and computer software holdings. The online catalog provides easy access to collections via authors, titles and subjects.
The library building includes a microcomputer laboratory with both DOS-based PCS and Macintosh equipment, a reference and reading area, monograph and microfilm area, history of medicine room and museum, group study rooms, audiovisual study and viewing rooms, a classroom and conference room. A satellite microcomputer laboratory is located on the main ETSU campus.

g. Parking
ETSU Parking - All students who park any type of motor vehicle on the East Tennessee State University campus are required to properly affix an official ETSU parking permit. Permits are provided yearly through the university Comptroller's Office. Each student is also provided a copy of current parking regulations. The campus Public Safety Department is responsible for enforcing parking regulations. Parking regulations are available to each student, and students are urged to observe them. The process for appeal of traffic or parking violations is outlined in these regulations and must be followed if the student regards the citation as unjust.

h. Campus Recreation
The Department of Campus Recreation provides the East Tennessee State University community with a growing array of physical activities. The department offers fitness programs, intramural sports, and outdoor adventure activities.

The Center for Physical Activities is open to all students at ETSU. Membership to the CPA is free to ETSU students as long as they have paid their Student Activities fee for the semester. Eligible students must simply present their student ID's at the reception area and at any intramural sport. Students may purchase a membership for their spouse and children. The student must present a valid ETSU ID to purchase memberships for their spouse and children. Some proof of marriage is required (marriage certificate, checks with both names, etc.) to purchase a spouse membership. A membership pass can be purchased at the equipment room desk in the Center for Physical Activity. Dependents ages 18-21 will receive their own ID card while children younger than 18 must be accompanied by their parents at all times.

i. Post Office and Post Office Boxes - Mailboxes for first year Ph.D. students will be located in the mail/copy room, B023, in Stanton-Gerber Hall. Other graduate students will receive mail through their departments. The campus post office, located on the lower level of the Culp University Center, contains more than 13,000 individual boxes and offers complete window service during regular working hours. Student post office boxes are assigned during registration to students. The assigned box, will be kept until graduation, unless a student withdraws from the university or fails to attend class during one of the regular semesters. Students who do not attend class during the summer will not lose their assigned boxes, and it is recommended that students check their mail daily. Window service is from 8:25 a.m.-3:55 p.m., Monday-Friday. Those students who do not carry at least 12 hours will not be issued a post office box. If you fall into this category and wish to obtain a post office box, you will need to contact the post office at extension 6894.

j. Inclement Weather Policy - The policy on closing the university due to inclement weather states that ETSU and its branch campuses will normally remain open during bad weather. The president of the university, under extreme conditions, may choose to officially close or suspend selected activities of the university or branch campuses. The decision to close the university or to cancel some or all classes will be made and announced as soon as possible to accommodate students who must commute. An official statement of closing will be broadcast over several area radio and television stations. The Center for
Adult Programs and Services hotline may also be called regarding school closings. The hotline number is 439-5641. The College of Medicine falls under the same inclement weather policy as the university.

Students are to attend classes unless otherwise notified by local media. If a student cannot attend class, the student is to contact the appropriate instructor(s) if possible. If not, the student must contact the instructor(s) immediately upon returning to the campus to negotiate an excused class absence and make up any missed work. If a student is stranded on campus due to inclement weather, facilities are available in university residence halls for an overnight stay. Students should report to the campus security building on the east side of campus.

10. Student Organizations and Activities

a. Biomedical Science Graduate Student Association
The BSGSA is an official organization East Tennessee State University representing the biomedical science graduate students.

President – Rudy Chapmam
Vice President – Drew Gill
Treasurer – Rajib Haq

b. Seminars and Journal Clubs
Research seminars are presented regularly in the College of Medicine. These talks are sponsored by various research groups and departments and feature invited outside speakers as well as our own faculty, graduate students and post-docs. The seminars are an important part of graduate education in the program and should be attended whenever possible. All Ph.D. students are required to present two announced seminars as part of their graduate training. It is particularly important for students to attend seminar presentations by other students and their thesis and dissertation defenses as these are important milestones in their graduate program. Your presence provides support and encouragement for your fellow students as well as recognition for their hard work and accomplishments. It is also a good opportunity to learn about the thesis/dissertation defense process and how to make an effective oral presentation.

c. Annual Student Research Forum
This event offers students, residents and fellows at ETSU an opportunity to present a poster of their research results in a formal setting. Research presented must have been conducted under the direction of an ETSU faculty member.

Research forum Web site: http://www.etsu.edu/studentresearch/

11. Important sources of information

The Graduate Catalog - The Graduate Catalog is the primary source of information on graduate curriculum, academic requirements and regulations and other academic matters. The catalog that is published during the year of a student’s admission is the basis for that student’s academic requirements. Thus, it is important for students to consult the catalog regularly and to use it as the authoritative source of information on academic matters. The catalog for the current academic years and for several previous years is available on-line at the graduate program web site.
Schedule of classes - The ETSU Schedule of Classes is published each semester and list all available courses. Students should consult the schedule when planning their courses for registration.

Web Sites

ETSU  http://www.etsu.edu/

ETSU School of Graduate Studies  http://www.etsu.edu/gradstud/

James H. Quillen College of Medicine  https://www.etsu.edu/com/

The Biomedical Science Graduate Program  https://www.etsu.edu/com/grad/

E-mail

E-mail in now the preferred mechanism of communication for students and faculty. It is important that all students maintain an e-mail address monitor their e-mail on a daily basis. All students receive an e-mail account through ETSU when they become registered for classes through the ETSU e-mail system. If you have problems with e-mail, please contact the student help desk at 439-4648. After beginning the program, all correspondence with students will be through e-mail using the ETSU student account *****@etsu.edu and not through personal or other e-mail accounts. Please check your ETSU e-mail account on a daily basis. You may wish to have e-mail forwarded to another personal account. Please keep in mind that we will not return correspondence though personal accounts.

D2L (Desire to Learn) Course management system

D2L is the course information system for ETSU. Most graduate courses will rely on D2L for course information including assignments, syllabus, course and staff information and e-mail communication.

D2L log-in site - https://elearn.etsu.edu/
D2L information - http://www.etsu.edu/d2l/