I. GENERAL INFORMATION

THE DEPARTMENT OF BIOMEDICAL & PHARMACEUTICAL SCIENCES

Mission Statement:
The mission of the Department of Biomedical & Pharmaceutical Sciences is to offer a dynamic curriculum in the biomedical and pharmaceutical sciences in support of the School’s professional pharmacy degree and strong graduate programs. The Department places high priority on the development of nationally recognized programs of research, NIH supported programs, and Ph.D. level graduate education. The Department provides service to the University and to local, regional, and national scientific and professional organizations. The Department is committed to development of minority training programs and recruitment of minority and female faculty and students.

Graduate Programs and Research:

Degree programs include:
- Ph.D. and M.S. in Pharmaceutical Sciences and Drug Design
- Ph.D. and M.S. in Toxicology
- Ph.D. and M.S. in Neuroscience
- Ph.D. and M.S. in Medicinal Chemistry

These programs provide training in pharmacology, pharmacokinetics, toxicology, neuroscience, and medicinal chemistry. Ph.D. degree training is generally completed within four-five years and consists of general course work and research rotations in the first year; the selection of a dissertation laboratory at the end of the first year; course work in the concentration area and research in the second year; doctoral qualifying exams and research in the third year; and research and dissertation defense in the final year(s). The M.S. degree requires two years of course work and the completion of thesis research. Graduates are well prepared for research careers in academics, government and industry.

The Department maintains a dynamic program that emphasizes biomedical research in pharmacology, pharmacokinetics, neurological diseases, toxicology, genetics, cancer, and health disparities. Students work closely with faculty both in the classroom and in the laboratory. The program is interdisciplinary, and students have the opportunity to interact with faculty from other campus departments and programs.

Faculty: Profiles, including research disciplines of Department Faculty can be found here.

Research Facilities: The Department maintains over 20 modern research laboratories in the Skaggs Building and Interdisciplinary Sciences Building. Faculty are engaged with several biomedical sciences research centers at the University of Montana, providing core facilities and equipment and unique opportunities for graduate study and research with nationally competitive investigators. For more information about these centers and associated core equipment facilities, follow the links below:
• The Center for Environmental Health Sciences (CEHS) seeks to advance our knowledge of environmental impacts on human health.
• The Center for Structural and Functional Neuroscience (CFSN) interfaces chemistry, biochemistry, pharmacology, toxicology, and molecular biology to advance our understanding of protein structure and function in the central nervous system.
• The Center for Biomolecular Structure and Dynamics (CBSD) emphasizes the mechanistic biology of molecular topics such as nucleic acid-protein interactions, neurotransmitter transport, protein structure, and viral RNA dynamics.
• The Neural Injury Center (NIC) is engaged in collaborative brain injury research, student training, and public and clinical education and services related to brain and other neural injuries.

**Administration:**

*Department of Biomedical and Pharmaceutical Sciences (BMED)*

Elizabeth Putnam  Chair
Kate Pennacchio  Financial Officer

*College of Health Professions and Biomedical Sciences (CHPBS)*

Howard Beall  Associate Dean, Skaggs School of Pharmacy
Donna Beall  Director of Student Affairs
Curtis Noonan  Director, Graduate Education and Research
Darrell Jackson  Coordinator of Recruitment & Graduate Student Affairs
Brittney Spatzierath  Graduate Program Coordinator
Jonathan Neff  Computer Support

*Directors of BMED Graduate Programs*

Erica Woodahl  Pharmaceutical Sciences and Drug Design
Sarah Certel  Neuroscience
Andrij Holian  Toxicology
Nick Natale  Medicinal Chemistry
II. GRADUATE STUDENT POLICY, OVERSIGHT AND ADVISORY COMMITTEES

THE GRADUATE SCHOOL

The Graduate School is the final authority on all admission and graduation requirements for graduate degrees. They also receive graduate stipend contracts, do on-line recruiting, and allocate UGTA’s (University Graduate Teaching Assistantships) to programs as negotiated. The student’s Advisory Committee form with signatures is placed on file with the graduate school by the CHPBS Graduate Program Coordinator. Final steps towards graduation require the student to process several items with the graduate school. See Milestones.

PROGRAM DIRECTORS

- Program Directors provide oversight for the curriculum, students, student progress and laboratory placement. Duties include:
  - Work with the Director of Graduate Education and Research and Chair on stipend support and recruitment.
  - Monitor student progress towards the degree (update checklist each semester) and assure that procedures are in place to assess annual student progress towards the degree.
  - Work with faculty advisors and Coordinator of Recruitment and Graduate Student Affairs if there are any issues and/or problems that need resolving.

- The Director or Graduate Evaluation Committee Chair (Neuroscience program) or his/her replacement designee will act as the advisor for all first year students until they select a dissertation advisor. This involves:
  - meeting with all new students to design their first year plan of study;
  - helping new students select rotation laboratories; and
  - following up to make sure students file reports. Students are required to file a one-page report for each rotation and have the supervising faculty member sign it. The report goes into the student permanent file.

RESEARCH ADVISOR

The Research Advisor serves as the graduate student’s primary mentor. The Research Advisor will:

- Serve as Chair of the Advisory Committee.
- Assist the student in assuring that all deadlines and procedures are followed. It is the student’s responsibility to ensure that these requirements are met.
- Report, in writing, to the Program Director and Associate Dean, the dates and outcomes
of Advisory Committee meetings, and the progress of the student toward the degree.

- Review and approve the dissertation draft prior to its submission to the Advisory Committee, at least 14 days prior to the final defense.
- In conjunction with the Graduate Program Coordinator and the Program Director, maintain a current file on the student in the Associate Dean’s Office.

**ADVISORY COMMITTEE**

In consultation with the Research Advisor the student will identify an Advisory Committee whose role will be to:

- Ensure that the student understands all University, Graduate School and Department regulations. It is the student’s responsibility to ensure these requirements are met.
- Offer advice and approve the student’s Plan of Study.
- Offer advice and approve the dissertation topic and research proposal.
- Provide research advice as individuals and in regular (at least twice yearly) meetings of the full committee with the student. Students have the right to request a committee meeting at any time.
- Submit questions for the written qualifying exam and administers the oral qualifying exam.
- Review the completed dissertation and make recommendations for its revision.
- Conduct the final dissertation defense and certify to the Graduate School whether the student has passed/not passed this examination.

**Change of Personnel on the Advisory Committee**

Until the time a research proposal has been approved by a student’s Advisory Committee, replacement or resignation of committee members may be made without prejudice at any time at the request of the student and the research advisor, and with approval of the Graduate Standards Committee (GSC) and the Graduate School. For the student who wishes a change of research advisor, that student’s program will be re-evaluated and the change will be subject to approval by the Program Director and Director of Graduate Programs. In such cases, the Coordinator of Recruitment & Graduate Student Affairs shall serve as ombudsman on behalf of the student.

If the student’s research proposal has been approved by the Advisory Committee and a replacement or substitution of the research advisor or a committee member is requested, the GSC must investigate the propriety of the request and submit a recommendation to the Graduate School. The original approved proposal must be unequivocally approved by the new research advisor or committee member. If it is not, the student must submit a new or revised proposal and
once again follow the procedures for proposal approved by all members of the advisory committee.

**Special Note on Program Governance for Neuroscience Graduate Program:**

Neuroscience Graduate Program (NGP) policies are interpreted by two committees: the Graduate Admissions Committee (GAC) and the Graduate Education Committee (GEC).

The charge of the GAC is to review and prioritize applications to the Neuroscience Graduate Program, coordinate recruitment efforts, coordinate incoming graduate student class size with NGP resources and other resources that may be available through the Associate Dean’s office, recommend applicants for admission, and co-sign all offers of admission.

The Chair of the GEC acts as the initial coursework advisor for the first year of all students prior to the selection of a research advisor, oversees student progress in the Neuroscience Graduate Program for the duration of the degree, and conducts annual review of all student files.

It is the student’s responsibility to contact the Chair of the GEC prior to scheduling major milestones such as the qualifying exam and dissertation defense. The Chair of the GEC and the Program Director has the right to bring deficiencies to the attention of the advisory committee and all NGP faculty. If corrective action is deemed necessary, it will be referred to the Associate Dean’s office.

**STUDENTS RIGHTS AND RESPONSIBILITIES**

1. Students take the ultimate responsibility in assuring that the standards and deadlines contained herein are met. Failure to meet deadlines and program standards may be interpreted as the student not making reasonable progress toward the degree.

2. Students have the right to call Advisory Committee meetings at any time.

3. Students have the right to change advisors or supervisory committee members. This process would start with consultation with the Program Director and/or the Chair and filing a formal request with the Graduate Standard Committee.

4. Students have the right to seek confidential advice or consultation regarding any matter from the department ombudsman. At present, this person is the Coordinator of Recruitment & Graduate Student Affairs.

5. Students have the right to be represented on committees involving student affairs as appropriate.
Policy on Professionalism and Professional Conduct
Skaggs School of Pharmacy
Department of Biomedical and Pharmaceutical Sciences
University of Montana

Purposes of Policy
Professional conduct and professionalism are of critical importance. This policy establishes standards of professionalism and professional behavior for graduate students in the Department of Biomedical and Pharmaceutical Sciences in the Skaggs School of Pharmacy. This policy establishes demonstrated professionalism as an academic graduation requirement for the M.S. and Ph.D. degrees. The policy is meant to be consonant with University-wide policies regarding student conduct. It does not supersede any policy established by the University of Montana or the College of Health Professions and Biomedical Sciences (CHPBS).

Fundamental Attributes of Professionalism
There are fundamental values of professionalism that are universal and apply to all disciplines. These include, but are not limited to, moral values such as honesty, integrity and trustworthiness; values that are specific to one’s profession (e.g., confidentiality, self-determination), to society (e.g., commitment to excellence), to oneself (e.g., self-reflection); and humanistic values such as empathy and compassion.

Standards for Professional Conduct
All students are expected to demonstrate high standards of professional behavior in all educational settings, including classrooms and laboratories, and in non-educational settings. Failure to meet these standards will result in disciplinary action up to, and possibly including, dismissal.

Policy for Violation of Professional Standards
This policy establishes guidelines and procedures for addressing alleged failures to maintain the standards of professional behavior. These procedures shall be transmitted to the CHPBS Dean and communicated clearly to the students. All procedures adopted by the School must conform both to University and CHPBS policies and procedures. In addition, all procedures must be written in a manner that protects the rights and interests of students, faculty members, the CHPBS and the University. The Professional Standards Committee (PSC) in the Skaggs School of Pharmacy shall be responsible for investigating alleged breaches of professional behavior and recommending appropriate corrective measures.
**Faculty observation**

When a faculty member observes a student action that represents a possible violation of expected professional standards, he or she will contact the student directly to discuss the issue. If the faculty member feels that an effective resolution results from meeting with the student, no further action is required, except that the faculty member shall document the incident in the student’s file and will notify the PSC.

If, after discussing the issue with the student, the faculty feels that a satisfactory resolution has not been reached, he or she will notify the PSC of the incident, the alleged breach of professional conduct, and the failure to obtain resolution. The committee will interview the student to discuss the nature of the incident and the student’s perception of that event, the faculty member involved, and other students or faculty as appropriate to determine a course of action. The PSC may require remedial action, such as (for example) probationary status, mandated counseling, or the development of a corrective plan.

Prior to instituting remedial action, the PSC will notify the Director of Student Affairs in writing of the nature of the incident and the corrective steps recommended. The Director will review the incident and the steps recommended by the PSC to ensure that policies have been followed and that the rights and due process of all parties involved have been preserved. The PSC’s findings and actions shall be recorded in the student’s permanent academic file.

All disciplinary actions are subject to review by the Dean. In the event that the Dean does not concur with the PSC’s recommendation, the Dean shall respect the decision of the committee unless it is in violation of CHPBS or University policies, or unless it may violate the rights of the student or the faculty member involved. In these cases, the Dean shall discuss the issue with the PSC and Department Chair to determine an appropriate course of action. The determination of the Dean shall be final within the College of Health Professions and Biomedical Sciences.

If the faculty member is unwilling or unable to contact the student directly, the matter should be referred directly to the PSC. If the faculty member observing the inappropriate behavior believes that a student has committed a serious enough breach of professional conduct, one that may place the School or CHPBS in jeopardy, he or she may refer the matter directly to the Director of Student Affairs.

In the event that a student fails on three occasions to meet the expected standards of professional
conduct (even when those incidents would not, individually, merit consideration for dismissal), the PSC or Director of Student Affairs may initiate a formal review of the student’s pattern of professional behavior to determine whether further remedial action or dismissal may be warranted. This review will be designed to preserve the rights and due process of all parties involved.

**Student Observation**

Professionals are expected to uphold the standards of their profession and to hold accountable their professional colleagues and peers. For that reason, students who observe a breach of professional conduct are expected actively to address the issue.

When a student observes a failure of professional conduct by another student, that student should attempt to discuss the incident in a constructive manner with the person in question. The Skaggs School of Pharmacy recognizes that this can be very difficult for students; hence, students may also report the observed behavior to a trusted faculty member, such as the faculty adviser, the department chair or the Director of Student Affairs. In this instance, the student must agree to report the offender by name and, in turn, to be identified as the individual filing the complaint. Anonymous complaints cannot be acted upon. All parties must recognize the need for confidentiality to protect the rights of all parties.

Once an alleged breach has been identified, the process for addressing the concern follows the same guidelines and procedures as when a faculty member observes the conduct.

Students who believe that a faculty member has behaved in an unprofessional manner are encouraged to discuss their concerns directly with that faculty member. Alternatively, a student may elect to discuss his or her concern with his or her faculty advisor, the Program Director, another faculty member, the department chair, the Director of Student Affairs, or the Dean. Any complaint against a faculty member will be addressed in accordance with the Collective Bargaining Agreement Student Complaint Procedure. (See [http://www.umt.edu/provost/pdf/CBA.pdf](http://www.umt.edu/provost/pdf/CBA.pdf), Section 21:000, page 60.)

**Right of Appeal**

Students who feel that some disciplinary action taken against them by the Skaggs School of Pharmacy is not warranted or appropriate may appeal that decision to the Director of Student Affairs. The Director shall review the facts of the case, the procedures followed by the School and the recommended action, in order to ensure that School and CHPBS policies have been
followed and that the rights of all parties have been preserved. The Director shall transmit a written report of his or her review to the student, to the PSC, to the department chair(s), and to the Dean. The Dean shall make the final decision regarding the disciplinary action.

Students who feel that the appeal decision is not correct have the right of appeal to the University of Montana, in accordance with the policies and procedures of the university.

**Responsibilities of the CHPBS**

The Dean shall be responsible for ensuring that any procedures adopted to address breaches of professional conduct shall conform to CHPBS and University policies. Within this framework, each school within CHPBS shall have the prerogative and the responsibility to establish and maintain policies and procedures that meet the specific needs of its students, faculty and educational program.

**Examples of professional behavior include, but are not limited to, the following:**

1. Honesty and integrity:
   a. Act with honesty and integrity in academic matters and professional relationships.

2. Trustworthiness:
   a. Demonstrate dependability to carry out responsibilities.

3. Empathy and cultural diversity:
   a. Demonstrate appropriate interpersonal interaction with respect to culture, race, religion, ethnic origin, gender, and sexual orientation.
   b. Demonstrate regard for differing values and abilities among peers, other health care professionals, and patients.

4. Communication:
   a. Communicate effectively with faculty, staff and students.
   b. Demonstrate confidence in actions and communications.
   c. Formulate written communications with professional content and tone.

5. Punctuality:
   a. Demonstrate punctuality in academic environments.
   b. Adhere to established times for classes, laboratories and meetings.
   c. Comply with established verbal and written deadlines.
   d. Respond to requests (written, verbal, e-mail, telephone) in a timely fashion.

6. Professional behavior:
a. Display professional behavior toward faculty, staff and students in the classroom and laboratory.
b. Show regard for persons in authority in classroom and laboratory settings.
c. Exhibit fitting behavior when representing the Department of Biomedical and Pharmaceutical Sciences in extracurricular activities and professional meetings.

7. Ethical standards:
   a. Demonstrate high ethical standards related to graduate education.

8. Negotiation, compromise, and conflict resolution:
   a. Demonstrate abilities of conflict resolution.
   b. Formulate constructive evaluation of others’ performance.
   c. Display positive attitude when receiving constructive criticism.

9. Lifelong improvement:
   a. Produce quality work in academic and laboratory settings.
   b. Demonstrate a desire to exceed expectations.
   c. Demonstrate characteristics of lifelong learning.

10. Time management and decision-making:
    a. Utilize time efficiently.
    b. Demonstrate self-direction in completing assignments.
    c. Demonstrate accountability for decisions.

11. Appearance:
    a. Maintain dress appropriate to classroom and laboratory settings.
    b. Maintain personal hygiene and grooming appropriate to the academic environment.
III. TEACHING AND RESEARCH ASSISTANTSHIPS (TA’s and RA’s)

Teaching and Research Assistantships are stipends along with tuition waivers that are provided to all students accepted into a program as full time students. To qualify as full time, students must register for at least 9 credits each semester. Graduate students (TA’s and RA’s) are expected to spend a minimum of eight hours a day during a weekday cumulatively in class, in lab, at the computer or performing teaching assistant responsibilities. Students are generally provided a 12 month assistantship and expected to work on their research throughout the summer. Some vacation time will be granted upon approval by the advisor and program director (or appropriate committee). Specific dates away must be submitted to the program coordinator. If accumulated time away exceeds 3 weeks it must be approved by the Associate Dean and may result in a partial stipend reduction.

TEACHING ASSISTANTS RESPONSIBILITIES

All graduate students with TA’s and RA’s serve as teaching assistants during each semester in which they are enrolled. Teaching assistants provide the following services for the Department of Biomedical and Pharmaceutical Sciences.

TA duties and responsibilities will include:

- Classroom instruction
- Quiz and exam grading
- Exam proctoring
- Laboratory course set-up, facilitation and clean-up

Teaching assistant responsibilities are assigned at the beginning of each semester by the Chair of the Department. The Chair may also assign a more senior student to be Head TA for the Pharmaceutical Sciences Laboratory (Pharmacy Students) and work with the Head TA to assign individual responsibilities for the semester.

During the Pharmaceutical Sciences Laboratory, TA’s are expected to provide instruction to the students. This is a valuable and enjoyable learning experience for the TA, and should be used to the fullest. The TA is expected to:

- Contact the course instructor at least one full week prior to each of their teaching assignments to determine the duties needed and their time frame.
- Work with the laboratory instructor to learn how you can help teach the students the laboratory session.
Note: Should a time conflict arise for a particular assignment, the TA is expected to:
1. Arrange for another student to substitute
2. Inform the course instructor
3. Inform the Head TA, if applicable.

The Head TA provides the following additional services.

- Work with the Department Chair and the graduate students to assign individual TA responsibilities for the semester.
- Confirm that TA’s have contacted the course instructors about upcoming responsibilities.
IV. Ph.D. DEGREE PROGRAM STANDARDS

**General Description**

The Ph.D. degree graduate programs provide training in pharmacology, pharmacokinetics, neurobiology, medicinal chemistry, neurochemistry, molecular genetics, immunotoxicology, neurotoxicology, respiratory toxicology, and molecular and genetic toxicology. Ph.D. degree training typically consists of two years of course work and two-three years of research leading to the completion and defense of a Ph.D. dissertation.

Below are descriptions of graduation requirements, transfer credits, course waivers, academic standing, and notes on general course requirements. Specific curricular requirements for each program can be found at the following sites:

- Pharmaceutical Sciences and Drug Design
- Neuroscience
- Toxicology
- Medicinal Chemistry

**Graduation Requirements**

1. Successful completion of all Graduate School requirements for the Ph.D. Current Graduate School requirements for the Ph.D. degree are found on the Graduate School web site (http://www.umt.edu/grad/Academic%20Policies/The%20Doctorate.php).

2. Successful completion of at least 60 graduate semester credits. No more than 30 credits of research and dissertation may be applied toward the 60-credit requirement for the Ph.D.

3. Successful completion and defense of a research dissertation as defined by the Graduate School.

4. Please note other Graduate School requirements for graduation:
   - Filing of application for graduation (due the first Monday in March for May Graduation)
   - Electronic submission of dissertation thesis one week prior to defense; the committee chair signifies committee approval for defense
   - June 19- Final deadline for completion of all requirements for May graduation
     - Refer to the Graduate School web site, as the date for completion of graduation materials for May graduation changes every year (http://www.umt.edu/grad/Current%20Students/Graduation%20Resourc
Transfer Credits - Advance Standing

Students may petition the Graduate School for transfer of graduate credits into their graduate program at UM. After one semester of satisfactory work at the University, the student may request the Associate Dean to submit the application to the Graduate School to accept transfer credits. An official copy of the student's transcript of the courses for transfer and catalog course descriptions should accompany the recommendation. Graduate School policies on credit transfer are:

D2.100 – Transfer Credits
On the recommendation of the Department and approval of the Graduate Dean, credits may be transferred (including an entire Master's Degree and/or credits from a Master's Degree program) from other institutions after one semester in residence.

D2.102 – Credits with grades other than A or B, thesis or correspondence credits, extension credits outside the Montana University System, or credits earned at institutions not offering graduate degrees in the discipline of the course are not transferable.

D2.103 – Graduate transfer credits are added to a student's record only if the student is in a graduate degree program and if the credit is applicable to the degree being sought.

Course Waivers

Students may petition the appropriate Program Director or respective Graduate Standards and Curriculum Committees for waiver of course requirements (such as biochemistry or cell/molecular biology) for which they have equivalent preparation. Waiver of a course does not reduce total credit requirements for the degree. Ph.D. students must accrue at least 60 graduate credits, of which no more than 30 credits of research and dissertation may be applied toward the 60 credit requirement.

Academic Standing - Progress Toward the Degree

B2.000 – Grades
Students must maintain a B average in courses taken for graduate credit at the University; no grade below C will be accepted toward any degree requirement. The student is automatically placed on academic probation if the cumulative grade point average falls below 3.0.
B2.100 – Pass grades are not included in grade point calculations, but may apply toward degree requirements when earned in courses offered only on a Pass/Not Pass basis.

B2.200 – Credit grades are not included in grade point calculations, but apply toward degree requirements when earned in courses offered only on a Credit/No Credit basis.

B2.300 – Only N (Continuation), NCR (no credit received) and CR (credit) grades are awarded for research, thesis and dissertation work. The grades of CR and NCR are not defined in terms of their relationship to traditional grades for graduate courses, but rather if the student completed the required work or not. Grades of I (Incomplete) not removed within one year revert to the alternate grade as determined by the instructor.

B2.500 – In UG (undergraduate or graduate) designated 400-level courses, graduate students will be evaluated in a manner different from that of undergraduate students, and will complete an additional increment of graduate-level work as assigned by the instructor.

A graduate student who fails to maintain the required minimum GPA will:

1. Be warned by the Program Director and Chair.
2. Be placed on probation if the GPA is less than 3.0.
3. Be dropped from the graduate program during the first year if the deficiency exceeds 9 grade points, or in the second year or thereafter, if the deficiency exceeds 6 grade points.

Reinstatement can be made on the basis of a petition approved by the GSC, Department Chair, and Graduate School.

The normal course load is 12-15 credits per semester. Students receiving financial aid must register for a minimum of 7 credits per semester. Students not receiving financial aid must register for a minimum of 4 credits per semester. Students must register for at least 3 credits, or petition the Graduate School to take only one credit in their final term.

In addition, the progress towards the completion of their dissertation will be regularly assessed by the appropriate supervisory committee, the Director of the Program, the Department Chair, and the Associate Dean for Graduate Education. Failure to make adequate progress towards completion of this degree requirement could lead to warnings, probation, and ultimately to dismissal from the program.
COURSE REQUIREMENTS

General Information

- Graduate students typically register for 10 to 14 credits per semester during the first two years of the program when they are enrolled in academic courses. In later years, students register for a maximum of 9 credits of research, thesis, or dissertation each semester. Graduate students must enroll for at least 9 credits in the Fall and Spring semesters in order to receive stipend support. Students do not need to enroll during Summer session.
- Graduate students should not enroll for more than 9 credits in any semester in which they are enrolled in 597, 599, 697, or 699 (Research/Thesis/Dissertation).
- Graduate students may enroll for a course as Audit only with prior approval of the Program Director.
- With permission of the course instructor and the advisor, graduate students may enroll in elective courses (those taken in addition to the requirements for the degree) on a Credit/No Credit basis.
- Students who complete the requirements for the Ph.D. during summer session must enroll for 1/3 credits of Dissertation during summer session. Students who miss the deadline for completion of degree requirements at the end of a semester and will defend early in the next semester may register for 3 credits of Dissertation for that semester. If the student continues to receive a stipend, this requires prior approval of the Graduate School. Students on stipend who defend later in the term must enroll for 9 credits.

Notes on Special Courses

Biochemistry
A sound foundation in the principles of biochemistry is essential for graduate study in the biomedical and pharmaceutical sciences. This requirement can be met by completion of BCH 380, BCH 480, PHAR 481 or the equivalent of these courses. Selection of the appropriate preparatory biochemistry course depends upon the degree program and upon student preparation and interest. Students are encouraged to consult with department faculty concerning the biochemistry requirement. The graduate program director ultimately must approve the student’s choice of biochemistry course. This biochemistry course requirement is waived for students having equivalent preparation.
**BIOB 425 – Advanced Cell & Molecular Biology**

This course is required for Toxicology, it is a prerequisite for Pharmaceutical Sciences and Drug Design. It prepares the student for contemporary research in the biomedical and pharmaceutical sciences.

**BMED 545 (Research Laboratory Rotations)**

The Research Laboratory Rotation experience is designed to introduce graduate students to research being done in the department, to provide experience in laboratory methods, and to help students select a research supervisor. Students benefit the most when they obtain a variety of experiences in their rotations.

- This course applies to all programs except Medicinal Chemistry
- Ph.D. students register for 3 credits of BMED 545 in their first semester only, and complete three 6-8 week rotations.
- Grades are submitted after all of the research experience write-ups have been received by the course coordinator and placed in the student’s file. Students who do not complete their rotations by the end of the semester are assigned a grade of N (course work continued into later semesters) until the requirements are met. At that time the Program Coordinator will submit a grade change form accordingly.
- Following completion of each rotation, the student prepares a one-page report summarizing the rotation experience. The student then has the faculty with whom the research was conducted sign it and turns it into the Program Coordinator for placement in their file. The report is submitted within a month after the completion of the rotation.
- BMED 545 is taken on a Credit/No Credit basis.

**BMED 593 - Current Research Literature (Journal Club)**

- This course applies to graduate students in the Toxicology and Neuroscience programs.
- Graduate students are required to register for at least 1 credit of BMED 593 in a semester in which they present and lead discussion of an article from the current research literature.
- Discussion of research articles from invited seminar speakers is featured in Journal Club.
- BMED 593 is taken on a Credit/No Credit basis.
A grade of Credit is issued by the course director when the student presents a satisfactory seminar or journal club presentation. The course director will solicit the opinion of the faculty attending the presentation prior to assigning the student’s grade. Upon satisfactory completion of the research article presentation, the BMED 593 course director will notify the Coordinator of Graduate Studies in writing of the student’s successful completion of the journal club requirement, and will provide the journal article citation for inclusion in the student’s file. Students whose presentation is not deemed satisfactory will be afforded the opportunity to make another presentation.

BMED 594 (Seminar)

- This course applies to all programs except Medicinal Chemistry
- All graduate students are required to attend the seminars sponsored by all areas of the department. Student attendance at scheduled seminars is monitored. While everyone will miss an occasional seminar due to certain conflicts, a consistent record of attendance is expected. Students are especially encouraged to attend seminars outside their area of specialization.
- Students register for Seminar only in the semesters in which they present a seminar.
- Ph.D. students present and register for 2 credits of seminar, as follows:
  1. An informational topic approved by the advisor. This seminar normally is presented during the second year in the program
  2. A progress report of the student’s dissertation research. This seminar normally is presented during the third year in the program.
- Students do not receive seminar credit for their thesis or dissertation defense seminar. Credit for these presentations are included in the thesis or dissertation credits.
- BMED 594 is taken on a Credit/No Credit basis.

BMED 605 – Biomedical Research Ethics

- All Ph.D. students (except medicinal chemistry) are required to take this 1 credit course, offered in the spring, which deals with scientific ethics, human and animal experimentation, plagiarism and intellectual property.

BMED 699 – Dissertation, and BMED 697 - Research

- During the semester that Ph.D. Candidates are writing their dissertation they will enroll
in BMED 699. Students who do not complete their dissertation by the end of the semester are assigned a grade of N (course work continued into later semesters). Upon successful defense of the dissertation, the N grade is converted to CR by the registrar.
V. Milestones for Ph.D. Programs

Students are expected to maintain “reasonable progress towards the degree” which includes not only the completion of coursework in a timely fashion with a 3.0 GPA or above, but also a series of procedures by certain deadlines eventually leading up to graduation. A summary of those milestones can be found in the Graduate Student Progress Checklist. This checklist will be maintained in the student’s file. It is up to the student and the advisor to ensure that this checklist is regularly updated. Regular annual progress reports towards the degree is assessed by the Advisor, Director (or review committee) and Graduate Program Coordinator and recorded on the form Annual Graduate Student Progress Report.

Additional guidance on these Milestones can be found below:

**Selection of Advisor and Advisory Committee**

Prior to selection of a Research Advisor and appointment of the Advisory Committee, students will be advised by the Director of the Graduate Program or the Chair of the Neuroscience Graduate Evaluation Committee in the area they have applied (Pharmaceutical Sciences and Drug Design, Toxicology, Medicinal Chemistry or Neuroscience).

Following completion of rotations, each student will select a faculty member (research advisor) with whom to conduct their thesis or dissertation research within their chosen program area. The research advisor should be selected by the end of the student’s first year in the program. Through discussion and mutual agreement, the student and research advisor select an area of research interest and persons to serve on an advisory committee. The Advisory Committee should be appointed prior to the 3rd semester in the program. The Ph.D. advisory committee is composed of a minimum of five members, at least four of who are full-time faculty or adjuncts in the student’s Program of Study or the Department of Biomedical and Pharmaceutical Sciences. One member must be from outside the Program. The student is responsible for approaching these persons and requesting that they serve on the Committee. After completing the Advisory Committee Form, the student submits the form to the Program Director and Associate Dean for approval. After approved, the Graduate Program Coordinator will submit the form to the Graduate Dean for approval. The Graduate Dean makes all committee appointments.

**Plan of Study**

Prior to the 3rd semester in the program, the student and research advisor will prepare a plan of study that includes all courses to be taken. The plan of study must subsequently be endorsed by
the Advisory Committee. Any changes in the plan of study, once approved, require approval of the Advisor, Advisory Committee, and the GSC. The Plan of Study and the Plan of Study Approval Form are located on the website.

**Notes on Comprehensive Qualifying Exam**

All Ph.D. students must successfully pass a Comprehensive Qualifying Exam by the end of the 5th semester in order to achieve Ph.D. candidacy status and advance in the respective program. In general there are two parts to the exam, written and oral. The written exam is completed first and the oral within a month following the written. Certain parts of the oral exam are based on the topics covered in the written exam but can be on any topic within the discipline.

The purpose of the Ph.D. Comprehensive Qualifying Exam:

- To evaluate the candidate’s general knowledge of the scientific discipline.
- To evaluate the candidate’s ability to apply that knowledge:
  - in the research setting
  - in written and oral communication of research and scientific ideas

If a majority of the committee feels that the student did not pass the exam, a second attempt can be made within a specified period of time. Occasionally the student may be asked to retake part, but not all, of the exam. Failure to pass the exam the second time results in dismissal from the program.

The exact structure of the exam varies somewhat from program to program so please consult with your advisor, program director and/or appropriate Graduate Education Committee Chair to ascertain the exact format used by your program.

In general the four programs structure their written exams as follows:

**-Pharmaceutical Sciences and Drug Design:**

The purpose of the qualifying exam is to 1) evaluate the candidate’s general knowledge of the scientific discipline, 2) evaluate the candidate’s ability to apply that knowledge in a research setting and in written and oral communication of research and scientific ideas. The student’s committee must approve the written Research Proposal before the end of the 5th semester. The comprehensive qualifying exam must be completed before the end of the 6th semester. If not, the student will be placed on probation. A maximum of two semesters of probation is allowed before the student is dismissed from the program.

Written portion:

The student will take a two-day written examination of the following format:

- Day 1 – answer four essay questions in the field of biomedical and
pharmaceutical sciences to be provided by the Examining Committee

- Day 2 – answer four of eight essay questions in the field of biomedical and pharmaceutical sciences or a topic related to the student’s field of study to be provided by the Examining Committee

A score of 70% will be required to pass the written examination. If the score is less than 70%, a second attempt will be allowed within two weeks of the first attempt. Failure to pass on the second attempt will result in dismissal from the Ph.D. program with an option to be considered for an M.S. degree.

Oral portion:
If the written portion is passed, the oral portion of the exam will take place within four weeks. The oral exam will cover topics from the written exam, the approved Research Proposal, or any other topic related to the discipline of biomedical and pharmaceutical sciences. A member of the committee other than the mentor will chair the exam. Each member must decide if the student passes or fails, with only one failing vote allowed for the student to pass the exam. If the student fails the first attempt at the oral portion of the exam, then written feedback will be provided to the student within one week and the exam will be repeated within four weeks. If the student fails again, they will be dismissed from the Ph.D. program with an option to be considered for an M.S. degree.

-Toxicology

The purpose of the qualifying exam is to 1) evaluate the candidate’s general knowledge of the scientific discipline, 2) evaluate the candidate’s ability to apply that knowledge in a research setting and in written and oral communication of research and scientific ideas. The student’s committee must approve the written Research Proposal before the end of the 5th semester. The comprehensive qualifying exam must be completed before the end of the 6th semester. If not, the student will be placed on probation. A maximum of two semesters of probation is allowed before the student is dismissed from the program.

Written portion:
The student will take a two-day written examination of the following format:

- Day 1 – answer four essay questions in the field of toxicology to be provided by the Examining Committee
- Day 2 – answer four of eight essay questions in the field of toxicology or a
topic related to the student’s field of study to be provided by the Examining Committee

A score of 70% will be required to pass the written examination. If the score is less than 70%, a second attempt will be allowed within two weeks of the first attempt. Failure to pass on the second attempt will result in dismissal from the Ph.D. program with an option to be considered for and M.S. degree.

Oral portion:
If the written portion is passed, the oral portion of the exam will take place within four weeks. The oral exam will cover topics from the written exam, the approved Research Proposal, or any other topic related to the discipline of Toxicology. A member of the committee other than the mentor will chair the exam. Each member must decide if the student passes or fails, with only one failing vote allowed for the student to pass the exam. If the student fails the first attempt at the oral portion of the exam, then written feedback will be provided to the student within one week and the exam will be repeated within four weeks. If the student fails again, they will be dismissed from the Ph.D. program with an option to be considered for an M.S. degree.

-Neuroscience:
This program uses a different format. The written exam begins with the submission by the student of three abstracts to the committee, from which the committee will select one for development into a proposal. One of the abstracts may be for an “in field” proposal which is defined as a proposal that addresses neuroscience-related questions within their current area of expertise. If the infield proposal abstract is selected by the committee then two additional provisions are applied: First, the Neuroscience GEC will appoint a substitute to replace the student’s advisor on the examining committee. The substitute will serve as the chair of the examining committee. Second, the student will be required to submit a fellowship proposal to an outside funding agency (with assistance from the advisor) at some later date, assuming both the written and oral exams are successfully completed.

-Medicinal Chemistry:
This program uses cumulative exams administered over the first two years the student is in the program, which essentially serves as the written comprehensive qualifying exam. Following the cumulative exams, the student will write and defend an original
research proposal, which essentially serves as the oral comprehensive qualifying exam. Please consult the program director and research advisor for details on the original research proposal. An oral exam and defense of the research proposal is conducted much like it is with each of the other programs. Please consult with the program director and review the medicinal chemistry handbook for details.

**Research Proposal**

The dissertation research proposal for the project to be undertaken by the student should be completed and endorsed by the Advisory Committee no later than the middle of the 5th semester in attendance. See appropriate form to be completed in the Appendices.

**Application for Graduation**

At least one semester before the Ph.D. degree is to be awarded, the student must submit to the Graduate School three copies of the *Application for Graduation Form* and a graduation fee. The Graduate School will conduct a degree audit and send two copies of this form back to the graduate program (one departmental copy and one student copy) early in the graduating semester. The Department and student should note any problems and rectify them at least two weeks prior to the end of the final semester by using a *Graduation Amendment Form*. If the student fails to meet the original graduation date as requested on the form, the student may request the application be reactivated for the following semester by notifying the Graduate School one semester prior to the revised completion date by using the *Request of Extension of Graduate Program Form*.

**Dissertation Draft**

The student will submit a dissertation draft to their research advisor for revision and approval. At least 14 days (2 weeks) prior to the defense, the student will submit the advisor-approved draft to the Advisory Committee members for approval. One week prior to the defense, the Committee Chair will electronically submit the dissertation draft (Word or PDF format) and the student’s current email address to Mara Baldwin in the Graduate School office at mara.baldwin@mso.umt.edu. This submission indicates that the document is defendable and all members of the committee have agreed it is ready for defense.

The document should be correctly formatted using the *Graduate School Formatting Guidelines*. The Graduate School will review the document for formatting and the Dean will review the content. The Graduate School will email the student with any revision notes.
**Dissertation Defense**

A public presentation of the results of dissertation work will occur as the final experience for the doctoral degree. One week prior to the defense the student must post an announcement of your seminar. This announcement should contain the dissertation title, and place and time of the defense. The department administrative associate can assist with this posting.

Following the public presentation, the Advisory Committee will meet with the student to discuss the dissertation. A committee member other than the Chair of the Advisory Committee will be nominated to direct the examination/defense. A student will pass with only one negative vote with the remaining committee members judging the performance to be satisfactory. In case of failure, one repeat examination is permitted. The examination/defense relates to both the dissertation and to the content of the discipline. The Dissertation Defense Approval Form needs to be signed by all members of the committee once a successful defense has occurred.

Once the student has successfully defended the dissertation, the Chair of the Advisory Committee will sign the department’s copy of the Application for Graduation Form and return it to the Graduate School. Receipt of the signed department copy of this form by the Graduate School indicates that the student has successfully completed the degree requirements. The degree will be awarded after receipt of the final electronic submission of the dissertation and all other Graduate School requirements have been met.

**Final Dissertation Submission**

The Committee Chair will submit the final Dissertation (Word or PDF format) electronically to the Graduate School office after a successful defense and the necessary revisions have been made.
VI. M.S. DEGREE PROGRAM STANDARDS

General Description

The M.S. degree provides training in pharmacology, pharmacokinetics, neurobiology, medicinal chemistry, neurochemistry, molecular genetics, immunotoxicology, neurotoxicology, respiratory toxicology, and molecular and genetic toxicology. M.S. degree training typically consists of one year of course work and one year of research leading to the completion and defense of a M.S. thesis.

Below are descriptions of graduation requirements, transfer credits, course waivers, academic standing, and notes on general course requirements. Specific curricular requirements for each program can be found at the following sites:

- Pharmaceutical Sciences and Drug Design
- Neuroscience
- Toxicology
- Medicinal Chemistry

Graduation Requirements

1. Successful completion of all Graduate School requirements for the M.S. degree. Current Graduate School requirements for the M.S. degree are found on the Graduate School web site (http://www.umt.edu/grad/Academic%20Policies/The%20Masters%20Degree.php).

2. Successful completion of at least 30 graduate semester credits as follows:
   a. At least 20 credits in the major (BMED), including research and thesis credits.
   b. At least 10 credits in 500 and 600 level courses, not including research and thesis.
   c. No more than 10 credits total of research and thesis (BMED 597/599) may be applied to the 30-credit requirement for the M.S. degree.

3. Successful completion and defense of a research thesis as defined by the Graduate School.

Transfer Credits - Advanced Standing

Students may transfer up to nine graduate/graduate non-degree semester credits or a full semester of graduate work on the recommendation of the program, after a semester of satisfactory work at UM. The transfer credits must meet the following requirements:

- The courses must have been taken for graduate credit. The Graduate School
verifies this when the student submits a transcript of the transfer coursework.

- Grades must be either an A or a B.
- Credits must be earned at an institution that offers a graduate degree in the discipline of the course being transferred.
- Credits must be applicable to the degree being sought.

For more information see the Graduate School web site on Policies, section C5.

**Course Waivers**

Students may petition the appropriate Graduate Standards Committee for waiver of course requirements (such as biochemistry) for which they have equivalent preparation. Waiver of a course does not reduce total credit requirements for the degree. M.S students must accrue at least 30 graduate credits, of which no more than 10 credits of research and dissertation may be applied toward the 30 credit requirement.

**Academic Standing - Progress Toward the Degree**

Students must maintain a B average in courses taken for graduate credit at the University: no grade below C will be accepted toward any degree requirement. The student is automatically placed on academic probation if the cumulative grade point average falls below 3.0. Graduate School Policies include:

- Pass grades are not included in grade point calculations, but may apply toward degree requirements when earned in courses offered only on a Credit/No Credit basis.
- Graduate students may re-take up to 6 semester credits, on approval of the program chair.
- Only N (Continuation), Credit, and No Credit grades are awarded for research, thesis and dissertation work.
- In UG (undergraduate/graduate) 300- and 400-level courses, students will be evaluated in a manner different from that of undergraduate students, and will complete an additional increment of graduate-level work as assigned by the instructor.

A graduate student who fails to maintain the required minimum GPA will:

1. Be warned by the Chair.
2. Be placed on probation if the GPA is less than 3.0.
3. Be dropped from the graduate program during the first year if the deficiency exceeds 9 grade points, or in the second year or thereafter, if the deficiency exceeds 6 grade points.
Reinstatement can be made on the basis of a petition approved by the Program Director and Chair.

The normal course load is 12-15 credits per semester. Students receiving financial aid must register for a minimum of 9 credits per semester. Students not receiving financial aid must register for a minimum of 4 credits per semester. Students must register for at least 3 credits in their final term.

In addition, the progress towards the completion of their thesis will be regularly assessed by the appropriate supervisory committee, the Director of the Program, and the Associate Dean. Failure to make adequate progress towards completion of this degree requirement could lead to warnings, probation, and ultimately to dismissal from the program.

**Course Requirements**

**General Information**

- Graduate students typically register for 10 to 14 credits per semester during the first two years of the program when they are enrolled in academic courses. In later years, students register for a maximum of nine credits of research, thesis, or dissertation each semester. Graduate students must enroll for at least 9 credits Fall and Spring semesters in order to receive stipend support. Students do not need to enroll during Summer session.

- Graduate students should not enroll for more than 9 credits in any semester in which they are enrolled in 597, 599, 697, or 699 (Research/Thesis/Dissertation).

- Graduate students may enroll for a course as *Audit only* with prior approval of the Program Director. Audited courses do not count towards the 30 credits required for graduation.

- With permission of the course instructor and the advisor, graduate students may enroll in *elective courses* (those taken *in addition to* the requirements for the degree) on a Credit/No Credit basis.

- Students who complete the requirements for the M.S. during summer session must enroll for 3 credits of Thesis during summer session. Students who miss the deadline for completion of degree requirements at the end of a semester and will defend *early* in the next semester may register for 3 credits of Thesis for that semester. If the student continues to receive a stipend, this requires prior approval of the Graduate School. Students on stipend who defend later in the term must enroll for 9 credits.
Notes on Special Courses

**BMED 545 (Research Laboratory Rotations)**

The Research Laboratory Rotation experience is designed to introduce graduate students to research being done in the department, to provide experience in laboratory methods, and to help students select a research supervisor. Students benefit the most when they obtain a variety of experiences in their rotations.

- This course applies to all programs except Medicinal Chemistry
- M.S. students register for 2 credits of BMED 545 and complete two 6-8 week rotations.
- Following completion of each rotation, the student is to prepare a one-page report summarizing the rotation experience. The student then has it signed by the faculty with whom the research was conducted and submits it to the Program Coordinator for placement in their file. The report is submitted within one month of completing the rotation.
- Grades are submitted after all of the research experience write-ups have been received by the course coordinator and placed in the student’s file. Students who do not complete their rotations by the end of the semester are assigned a grade of N (course work continued into later semesters) until the requirements are met.
- BMED 545 is taken on a Credit/No Credit basis.

**BMED 593 Current Research Literature (Journal Club)**

- This course applies to graduate students in the Toxicology and Neuroscience programs.
- All graduate students are required to register for at least 1 credit of BMED 593 in a semester in which they present and lead discussion of an article from the current research literature.
- Discussion of research articles from invited seminar speakers is featured in Journal Club.
- BMED 593 is taken on a Credit/No Credit basis.
- The course director issues a grade of Pass if the student presents a satisfactory seminar or journal club presentation. The course director will solicit the opinion of the faculty attending the presentation prior to assigning the student’s grade. Upon satisfactory completion of the research article presentation, the BMED 593
The course director will notify the Program Director and Coordinator of Graduate Studies of the student’s successful completion of the journal club requirement, and will provide the journal article citation for inclusion in the student’s file. Students whose presentation is not deemed satisfactory will be afforded the opportunity to make another presentation.

**BMED 594 (Seminar)**

- This course applies to all programs except Medicinal Chemistry.
- All graduate students are required to attend the Biomedical and Pharmaceutical Sciences Seminars every semester. Student attendance at scheduled seminars is monitored. While everyone will miss an occasional seminar due to certain conflicts, a consistent record of attendance is expected. Students are especially encouraged to attend seminars outside their area of specialization.
- Students register for Seminar only in the semesters in which they present a seminar.
- M.S. degree students present one informational seminar and register for 1 credit of 594.
- Students do not receive seminar credit for their thesis defense seminar. Credit for this presentation is included in the thesis credits.
- BMED 594 is taken on a Credit/No Credit basis.

**BMED 599 – Thesis and BMED 597 - Research**

- M.S. degree students enroll in BMED 599 in the semesters in which they are writing their thesis. Prior to that, the appropriate research course to enroll in is BMED 597. Students who do not complete their thesis by the end of the semester are assigned a grade of N (course work continued into later semesters). Upon successful defense of the thesis, the N grades for all semesters are converted to CR by the registrar.
VII. Milestones for M.S. Programs

Students are expected to maintain “reasonable progress towards the degree” which includes not only the completion of coursework in a timely fashion with a 3.0 GPA or above, but also a series of procedures by certain deadlines eventually leading up to graduation. A summary of those milestones can be found in the Graduate Student Progress Checklist. This checklist will be maintained in the student’s file. It is up to the student and the advisor to ensure that this checklist is regularly updated.

Additional guidance on these Milestones can be found below:

Selection of Advisor and Advisory Committee

Prior to selection of advisor and appointment of the Advisory Committee, students will be advised by the Directors of the Graduate Programs in Pharmaceutical Sciences and Drug Design, Toxicology, Medicinal Chemistry and Neuroscience. The research advisor should be selected by the end of the student’s 2nd semester in the program. The Advisory Committee should be appointed prior to the 3rd semester in the program.

Plan of Study

Prior to the 3rd semester in the program, the student and research advisor will prepare a plan of study that includes all courses to be taken. The plan of study must subsequently be endorsed by the Advisory Committee. Any changes in the plan of study, once approved, require approval of the Advisor, Advisory Committee, and the Chair. See Plan of Study form online.

Research Proposal

The thesis research proposal will be completed and endorsed by the thesis Advisory Committee no later than the middle of 3rd semester in attendance. See Research Proposal form online.

Application for Graduation

At least one semester before the M.S. degree is to be awarded, the student must submit to the Graduate School three copies of the Application for Graduation Form and a graduation fee. The Graduate School will conduct a degree audit and send two copies of this form back to the graduate program (one departmental copy and one student copy) early in the graduating semester. The Department and student should note any problems and rectify them at least two weeks prior to the end of the final semester by using a Graduation Amendment Form. If the student fails to meet the original graduation date as requested on the form, the student may request the application be reactivated for the following semester by notifying the Graduate
School one semester prior to the revised completion date by using the Request of Extension of Graduate Program Form.

**Thesis Draft**

The student will submit a thesis draft to their research advisor for revision and approval. At least 2 weeks (14 days) prior to the defense, the student will submit the advisor-approved draft to the Advisory Committee members for approval. One week prior to the defense, the Committee Chair will electronically submit the draft (Word or PDF format) and the students’ current email address to Mara Baldwin in the Graduate School office at mara.baldwin@mso.umt.edu. This submission indicates that the document is defendable and all members of the committee have agreed it is ready for defense.

The document should be correctly formatted using the Graduate School Formatting Guidelines. The Graduate School will review the document for formatting and the Dean will review the content and will email the student with any revision notes.

**Thesis Defense**

A public presentation of the results of thesis work will occur as the final experience for the Master’s degree. One week prior to the defense the student must post an announcement of their defense. This announcement should contain the thesis title, and place and time of the defense. The department administrative associate can assist with this posting.

Following the public presentation, the Advisory Committee will meet with the student to discuss the thesis. A committee member other than the Chair of the Advisory Committee will be nominated to direct the examination/defense. For a student to pass, all committee members must judge performance to be satisfactory. In case of failure, one repeat examination is permitted. The examination/defense relates to both the thesis and the content of the discipline. Upon approval, the student will fill out the Thesis Defense Approval Form and have all committee members sign the form.

Once the student has successfully defended their thesis, they will complete the Application for Graduation Form and return it to the Graduate School. Receipt of the signed department copy of this form by the Graduate School indicates that the student has successfully completed the degree requirements. The degree will be awarded after receipt of the final electronic submission of the thesis and all other Graduate School requirements have been met.

**Final Thesis Submission**

The Committee Chair will submit the final Thesis (Word or PDF format) electronically to the Graduate School office after a successful defense and the necessary revisions have been made.