I. Overview

Summary of Graduate Program and Degrees

The Department of Sustainable Biomaterials is one of four academic departments within the College of Natural Resources and Environment at Virginia Polytechnic Institute and State University (Virginia Tech). Faculty and staff have appointments in the College of Natural Resources and Environment (CNRE), the Virginia Agricultural Experiment Station (VAES), and Virginia Cooperative Extension (VCE).

We provide instructional and research opportunities in the areas of sustainable biomaterials, biobased composites, industrial ecology, unit load design, packaging design and systems, sustainable and biodegradable packaging, carbon nanomaterials, plant anatomy, polymer science, and timber engineering, among additional specialization areas. Research and coursework spans the range from nanotechnology and the basic materials science, through processing, design, manufacturing, marketing, management, and competitiveness aspects of various industry segments.

Our graduate degree program is part of a joint degree program offered by the Department of Sustainable Biomaterials and the Department of Forest Resources and Environmental Conservation. Three degrees are offered in this joint program:

- Master of Forestry (M.F.) non-thesis option
- Master of Science in Forestry and Forest Products (M.S.)
- Doctor of Philosophy in Forestry and Forest Products (Ph.D.)

The Master of Science is thesis-based and the Master of Forestry is non-thesis. Students electing to pursue the non-thesis option are required to take more classes than the thesis option and present a report on a problem of their choosing. The M.F. program requires no original research or thesis and is considered a terminal, professional degree. The vast majority of graduate students in our program elect the M.S. thesis option. The M.S. and Ph.D. degrees require students prepare and defend a thesis or dissertation; considerable time is devoted to original research in addition to coursework and training.

Admission Requirements

All applicants must meet the requirements for admission to the Graduate School at Virginia Tech. Details about the Graduate School, the on-line application process, transcripts and letters of recommendation, TOEFL and GRE requirements, deadlines, and other areas are available [https://graduateschool.vt.edu/admissions.html](https://graduateschool.vt.edu/admissions.html)

Admission is contingent upon receipt of a bachelor of science degree or bachelor of arts degree from an accredited college or university and the presentation of evidence of potential to pursue graduate work. Major factors considered in the evaluation are scholastic record, professional experience, three letters of recommendation, and scores on standardized tests. Admission categories and graduate status classifications are shown in the Graduate School’s Graduate Catalog [https://secure.graduateschool.vt.edu/graduate_catalog/](https://secure.graduateschool.vt.edu/graduate_catalog/)

The Graduate Record Examination (GRE) General Test is required by the Department of Sustainable Biomaterials for all applicants. All applicants whose undergraduate degrees were obtained from an institution where English is not the primary language of instruction must provide the Graduate School with the score of the Test of English as Foreign Language (TOEFL). TOEFL scores are not required of U.S. permanent residents and U.S. naturalized citizens. Official test scores should be sent to the Virginia Tech Graduate School, institution code 5859.

When an application is complete, the Graduate School forwards it to the department. The department circulates the application among faculty member to obtain input into the final decision. After all faculty members have had a chance to rate the application, the department head makes a recommendation to the Dean of the Graduate
School to admit or reject the application. The Dean of the Graduate School informs the applicant regarding the outcome of the application. Please allow six to eight weeks for a decision to be made.

**Application Deadlines**
We encourage applicants to submit their completed applications, including supplemental materials, as early as possible to allow sufficient time for application processing. Applications and all related materials for admission should reach the Graduate School Office at least eight weeks before the beginning of the semester in which enrollment is requested. Deadlines are found here: [https://graduateschool.vt.edu/admissions/how-to-apply/deadlines.html](https://graduateschool.vt.edu/admissions/how-to-apply/deadlines.html)

**Degree Requirements**
Within the framework of degree requirements established by the Graduate School, the following items are required by the Department of Sustainable Biomaterials (Key Milestones and Requirements chart attached):

1. Approval of the Plan of Study by the advisory committee.
2. Approval of the Research Plan by the advisory committee.
3. Successful completion of the minimum hours of coursework for the degree sought.
4. Passing the preliminary exam for Ph.D. students.

**Financial Support**
Financial support from the Department of Sustainable Biomaterials is limited to the number of available Graduate Research Assistantships (GRA) and Graduate Teaching Assistantships (GTA). These stipends (a form of payment or salary) are granted for a specified period provided that the recipient's progress toward their degree is satisfactory. Each academic year a decision regarding continuation of the stipend is made by the student’s advisory committee based on the results of the annual evaluation review further described in a following section.

Grade Point Average (GPA) review is conducted at the end of each semester, the stipend is discontinued if the student's overall GPA falls below a 3.00. In addition to GPA requirements, continuance of a stipend is considered at the end of an academic semester based on the student's overall performance in research and completion of the plan of study and research plan in a timely manner. Evaluations may be conducted at other times during the graduate program at the discretion of the major professor and advisory committee.

**Assistantships**
One of the most common sources of funding is the graduate assistantship. Assistantships can be in support of general administrative duties, teaching assignments, and research projects.

a) Graduate Research Assistantships (GRA)
Graduate research assistants are graduate students conducting academically significant research under the direction of a faculty member, who is generally a principal investigator on an external grant or contract. Graduate Research Assistantships are awarded by departments and professors who are engaged in research projects.
b) Graduate Teaching Assistantships (GTA)
Graduate teaching assistants provide academic program support under the supervision of a faculty member. GTAs may assist faculty in the department in teaching undergraduate courses, including laboratory teaching assignments, or in providing other appropriate professional assistance, including grading examinations, problem sets, and/or lab assignments, setting up displays for lectures and laboratory sections, and preparing or maintaining equipment used in laboratory sections.

c) Graduate Teaching Assistantship Workshop
All graduate teaching assistants in the Department are required to attend and be enrolled in the GTA Workshop (GRAD 5004, 1 cr., P/F) in the first fall semester of their teaching appointment. Other students who hope to qualify for an open assistantship in the future should take the workshop in their first semester.

d) Assistantship Agreement Contract (an example is provided at the end of this document)
Students offered an assistantship must sign a Graduate Assistantship Agreement form (aka, Grad Agreement), which is a contract between the student and department. The agreement will stipulate the beginning and ending dates of the contract, the type of appointment, the amount of the monthly stipend, whether the student is expected to work during school breaks, and any other special conditions. The agreement also indicates whether a tuition scholarship will be paid by the department and whether or not the out-of-state portion of the tuition will be waived.

e) Academic Eligibility to Hold a Graduate Assistantship
Assistantships may be offered to degree seeking graduate students admitted to Regular status (GPA of 3.0 or greater). To continue to be eligible for an assistantship, a student must maintain a GPA of 3.0 and be making satisfactory progress toward achievement of a graduate degree. The Graduate School may allow a student one semester on probationary status to remedy grade deficiencies. Students on assistantship must be enrolled for a minimum of 12 credit hours per academic year semester. Audited courses do not qualify in satisfying this minimum.

Fees
Students are responsible for mandatory fees each semester and the other fees associated with completion of the degree program. See the Bursar's web page for a description of fees. [https://www.bursar.vt.edu/tuition-fee-rates/tuition-fees.html](https://www.bursar.vt.edu/tuition-fee-rates/tuition-fees.html)

Student Health Insurance
Students are encouraged to purchase medical insurance for themselves and their families. Virginia Tech offers an insurance plan for all full-time enrolled students. Purchasing this plan is optional for U.S. citizens and permanent residents, however, international students are required to purchase insurance coverage for the duration of their stay. The university-sponsored insurance plan is managed by the Student Medical Insurance Office. This office can provide you with detailed information about the University's health insurance plan, coverage, costs, effective dates, and other relevant information.

Workload, Holidays, and Vacations
It should be realized that graduate research and teaching assistants on stipend are funded by research grants, contracts, and university funds and are considered half-time personnel (20 hours per week). The major professor of grant/contract PI (Principle Investigator) will determine the work to be performed on the research grant, contract, or fund. Usually, the student will be expected to work an average of 20 hours a week on the funded grant, contract, or assistantship but no more than 20 hours per week on average on that grant/contract/fund. The time spent on meeting other academic requirements IS NOT considered part of the 20 stipend hours.
Holidays are established and published annually by the University Registrar. Students observe the same holidays as other University personnel.

As part-time personnel, students are not eligible for benefits such as accrual of annual vacation and sick leave. As a result, no right to vacation is associated with a GRA or GTA. Graduate students should schedule anticipated absences with their major professor to ensure that this will not conflict with their research and teaching activities. If a student wishes to take a vacation or leave of absence, the student must make arrangements with the major professor in advance. It is expected that any time lost during such a break will be made up prior to or after return from work.

Students entering a graduate program should understand that there might be occasions when extended working hours will be required for completion of academic and research responsibilities.

II. Completing your Graduate Degree

General Conduct of Students in Residence
By accepting admission to the Graduate School, you subscribe to and are governed by the Graduate Honor System and acknowledge the right of the University to establish policies and procedures and to take disciplinary action when such action is warranted. Compliance with the Graduate Honor Code requires that all graduate students exercise honesty and ethical behavior in all their academic pursuits at Virginia Tech. As such, this code requires a firm adherence to a set of values. [https://graduateschool.vt.edu/academics/expectations/graduate-honor-system.html](https://graduateschool.vt.edu/academics/expectations/graduate-honor-system.html)

It is also expected that you adopt and practice the Virginia Tech Principles of Community [https://www.inclusive.vt.edu/about/vtpoc.html](https://www.inclusive.vt.edu/about/vtpoc.html)

Assignment of faculty advisor (major professor)
When a student is accepted for graduate study, a faculty advisor is assigned by the SBIO department head. This advisor (aka, major professor) will work with the student to determine a Plan of Study, prepare their Research Plan, and guide their graduate program.

Advisory Committee
The student's advisory committee designs and approves the Plan of Study (described in the next section), provides advice, and regularly evaluates the student's progress and achievements. Advisory committee members are appointed by the Graduate School on recommendation of the Graduate Program Director. Establishment of the advisory committee occurs in conjunction with approval of the Plan of Study. The student should confer with the major professor, the department, and the prospective committee members prior to committee appointment.

a) Masters students
M.S. and M.F. students must have an advisory committee of at least three faculty members with a Master's degree or higher.

b) Ph.D. students
Ph.D. students must have an advisory committee of at least four faculty members with a doctoral degree. The Department of Sustainable Biomaterials requires that at least one member of the Ph.D. advisory committee be from a department other than Sustainable Biomaterials.
Evaluation of student progress (an example form is attached)
Graduate student evaluation is conducted annually by the student’s advising committee in the spring semester. The evaluation form should be signed by the student, all committee members, and the Graduate Program Director, with copies going to the student, the committee members, and the student’s personal file kept in the departmental office. Students must maintain a 3.0 grade point average and receive a satisfactory review of progress by the advisory committee on the evaluation. A student’s graduate program may be terminated if progress is unsatisfactory. Appeals are normally made through the Department Head and Graduate School Dean. Once the evaluation form is completed, it should be forwarded to the department head office.

Enrollment Requirements
a) Full Time Enrollment
Full-time enrollment for graduate students for purposes of tuition and fees requires a minimum of 9 credit hours and has a maximum of 18 credit hours per semester during the academic year. However, Graduate Assistants (GRAs and GTAs) and fellowship and scholarship recipients must enroll for at least 12 credit hours per semester.

b) Graduate Students on Assistantship
Students on full graduate assistantship are assumed to be 50 percent employed for determining credit hour loads and can enroll for 12-18 credit hours of course work in academic year semesters and/or 6-9 credit hours during each summer session. The maximum credit hours total for both summer sessions is 12 and the maximum is 9 credit hours in any one summer session.

c) Continuous Enrollment
Graduate students must be registered continuously at Virginia Tech during the academic year (fall and spring semesters) and pay the prescribed tuition and fees. The minimum enrollment is 3 credit hours however students working on research activity should enroll in the number of credit hours that reflects the extent of their research activity. Those students holding a graduate assistantship must be enrolled for a minimum of 12 credits per semester. Students who need to break continuous enrollment may apply to the Graduate School for a leave of absence.

Courses Required by Virginia Tech and Sustainable Biomaterials
Virginia Tech allows for both thesis and non-thesis master’s degrees. For each degree type, the student's Plan of Study must meet the requirements shown below. An advisory committee may add specific requirements for an individual student’s academic development or make recommendations for substitutions for these requirements.

Master of Forestry (non-thesis option) requirements
(9 -10 credit hours toward the minimum 36 graduate credit hours required)

1. SBIO 5004 Graduate Seminar, 1 credit hour
2. SBIO 5114 Professional Skills for SBIO Graduate Students, 2 credit hours
3. SBIO 5124 Wood Materials Science, 4 credit hours
4. Selection of a minimum of one course from this list:
   SBIO 5104 Packaging Development
   SBIO 5224 Quantitative Wood Anatomy
   SBIO 5324 Timber Engineering
   SBIO 5344 Industrial Ecology
5. Virginia Tech requires all graduate students receive training in ethics and scholarly integrity. Graduate students in Sustainable Biomaterials fulfill this requirement by completing SBIO 5114 Professional Skills for Graduate SBIO Graduate Students.

6. Virginia Tech also requires all graduate complete training in inclusion and diversity. SBIO graduate students fulfill this requirement by completing SBIO 5114 AND NR 5984 Environmental Justice. GRAD 5214 Diversity and Inclusion for a Global Society may be substituted for NR 5984 with approval of the student’s advisory committee.

7. Additional graduate level courses must be taken to fulfill the minimum credit hour requirements of the Graduate School.

   **Master of Science thesis option requirements**
   (12 - 13 credit hours toward the minimum 30 graduate credit hours required)

1. SBIO 5004 Graduate Seminar 1 credit hour
2. SBIO 5114 Professional Skills for SBIO Graduate Students, 2 credit hours
3. SBIO 5124 Wood Materials Science, 4 credit hours
4. Statistics ONE graduate level 3 credit hour statistics course determined by advisory committee
5. Selection of a minimum of one course from this list:
   SBIO 5104 Packaging Development
   SBIO 5224 Quantitative Wood Anatomy
   SBIO 5324 Timber Engineering
   SBIO 5344 Industrial Ecology
   SBIO 5424G Polysaccharide Chemistry
   SBIO 5664 Advanced Packaging Dynamics
   SBIO 5984 Special Study in relevant topics as they emerge

6. Virginia Tech requires all graduate students receive training in ethics and scholarly integrity. Graduate students in Sustainable Biomaterials fulfill this requirement by completing SBIO 5114 Professional Skills for Graduate SBIO Graduate Students.

7. Virginia Tech also requires all graduate complete training in inclusion and diversity. SBIO graduate students fulfill this requirement by completing SBIO 5114 AND NR 5984 Environmental Justice. GRAD 5214 Diversity and Inclusion for a Global Society may be substituted for NR 5984 with approval of the student’s advisory committee.

8. Additional graduate level courses must be taken to fulfill the minimum credit hour requirements of the Graduate School.

   **Ph.D. requirements**
   (19 - 20 credit hours toward the minimum 90 graduate credit hours required)

1. SBIO 5004 Graduate Seminar 1 credit hour, must be taken twice
2. SBIO 5114 Professional Skills for SBIO Graduate Students, 2 credit hours

3. SBIO 5124 Wood Materials Science, 4 credit hours

4. Statistics TWO graduate level 3 credit hour statistics courses determined by advisory committee

5. Selection of a minimum of TWO course from this list:
   - SBIO 5104 Packaging Development
   - SBIO 5224 Quantitative Wood Anatomy
   - SBIO 5324 Timber Engineering
   - SBIO 5344 Industrial Ecology
   - SBIO 5424G Polysaccharide Chemistry
   - SBIO 5664 Advanced Packaging Dynamics
   - SBIO 5984 Special Study in relevant topics as they emerge

6. Virginia Tech requires all graduate students receive training in ethics and scholarly integrity. Graduate students in Sustainable Biomaterials fulfill this requirement by completing SBIO 5114 Professional Skills for Graduate SBIO Graduate Students.

7. Virginia Tech also requires all graduate complete training in inclusion and diversity. SBIO graduate students fulfill this requirement by completing SBIO 5114 AND NR 5984 Environmental Justice. GRAD 5214 Diversity and Inclusion for a Global Society may be substituted for NR 5984 with approval of the student’s advisory committee.

8. Additional graduate level courses must be taken to fulfill the minimum credit hour requirements of the Graduate School.

**Plan of Study (flow chart attached)**

The Virginia Tech Graduate School requires that all graduate students must submit a Plan of Study (course list and list of advising committee) that meets at least the minimum Graduate School requirements for the designated degree. The Plan of Study must be approved by the student’s Major Professor and Advisory Committee, the Graduate Program Director, and the Graduate School.

The student should schedule a meeting of the proposed advisory committee to review and approve the Plan of Study according to the following schedule set by the Virginia Tech Graduate School:

a) Masters (M.S. and M.F.)
   due by the **end of the second academic semester** for all Master’s degree students (based on full time enrollment of 12 credits per semester).

b) Ph.D.
   due by the **end of the third academic semester** for all Ph.D. students (based on full time enrollment of 12 credits per semester).

The approved Plan of Study should be sent to the department’s Graduate Program Coordinator who will enter your plan electronically for Graduate School for approval.

Templates to construct the plan of study are found here: [https://sbio.vt.edu/students/graduate.html](https://sbio.vt.edu/students/graduate.html) at the very bottom of the page.
Research Plan
The Department of Sustainable Biomaterials requires that all M.S. and Ph.D. students submit a written Research Plan to the Advisory Committee within two semesters of residence. A student who does not submit the research plan by the end of the first two semesters may be considered to be making unsatisfactory progress. A research plan is not required for M.F. students.

The plan should be discussed with and approved by the student's advisory committee. It should include a literature review in the subject area of the research to be undertaken to become the basis for the student's thesis or dissertation. It should also state clear objectives, variables, procedures, methods of analysis, and an estimate of time and equipment required. Composition of the research plan should be done in close consultation with the major professor.

Once the student and major professor have refined the plan to their joint satisfaction, copies should be distributed to the advisory committee. The student should then schedule a meeting of the committee to receive suggestions and direction on the proposed research plan. Typically, the graduate student will present a departmental seminar describing the proposed research.

The research plan must be signed by the student's committee and the Graduate Program Director and filed with the Department Head's Office.

Qualifying examination for Ph.D students
A qualifying exam may be required for SBIO Ph.D. students. The student’s graduate program advising committee will determine the form and content of the examination.

Preliminary examination for Ph.D. students
The preliminary examination is a requirement for all Ph.D. students. This examination must be taken at least six (6) months before the final exam. Examinations are scheduled through the Graduate School. To pass the preliminary exam, a graduate student is allowed at most one unsatisfactory vote. If a student fails the exam, one full semester (a minimum of 15 weeks) must elapse before the second examination is schedule. No more than two opportunities to pass any one examination are allowed. A student failing the preliminary exam twice will be dismissed from graduate studies by the Graduate School.

The student’s graduate program committee will determine the form and content of the examination. The preliminary examination is comprehensive in nature and is intended not to be restricted only to the defense of the proposal but also to test the student's ability to integrate, synthesize and apply concepts, facts and methods in solving new and complex problems associated with their field. The candidate may therefore be tested on all aspects of their research field including experimental methods, philosophy of science, and science as it relates to society. The preliminary examination is the most comprehensive examination the candidate must pass to qualify for the Ph.D.

Final Examinations
An oral and/or written final examination is required of all graduate students. All final exams must be scheduled with the Graduate School. The committee for the final examination normally consists of the student's advisory committee. If one of the Advisory Committee members cannot be present at an exam, the Major Professor can request that another faculty member serve as a proxy on the examining committee. To pass the final exam, a graduate student is allowed at most one unsatisfactory vote. If a student fails the final exam, one full semester (a minimum of 15 weeks) must elapse before the second examination is schedule. No more than two opportunities to pass any one examination are allowed. A student failing the final exam twice will be dismissed from graduate studies by the Graduate School.
a) Master of Forestry
M.F. students must defend their "degree paper" and will be thoroughly tested on their knowledge of their particular discipline.

b) Master of Science
Each M.S. student must pass a final oral examination that consists of a defense of their thesis and an assessment of their understanding of their particular discipline.

c) Ph.D. students
All Ph.D. students must pass a final oral examination in the last semester of enrollment. The exam will be primarily a defense of the dissertation, but other areas of the discipline will also be included at the discretion of the committee. The exam must be scheduled no earlier than six months after successful completion of the Ph.D. preliminary exam.

Thesis, Project Paper, and Dissertation Scheduling and Completion

a) Submission and Scheduling
The thesis/project paper/dissertation must be evaluated by all members of the student's advisory committee. A successful degree candidate is allowed, at most, one negative vote. Examinations are scheduled through the Graduate School. [https://ess.graduateschool.vt.edu](https://ess.graduateschool.vt.edu)

b) Electronic Thesis and Dissertation (ETD)
Graduate students and their advisors must verify that the thesis or dissertation is appropriately written and cited using the iThenticate portal found on the Graduate School website.

Theses and dissertations are submitted electronically to the Graduate School’s ETD system. M.F. project papers are not submitted to the ETD system. For instructions, see [https://guides.lib.vt.edu/c.php?g=547528&p=3756956](https://guides.lib.vt.edu/c.php?g=547528&p=3756956). Theses and dissertations must be submitted to the ETD system within two weeks of the defense.

Graduate degrees are completed after the approval of the ETD by the Graduate School and the completion of all other requirements for the degree.

Preparation of Manuscript(s)
All graduate students are expected to prepare manuscript(s) of their research results or M.F. project for publication. Authorship of manuscripts should be according to the contribution of each author to the overall project. Usually in our department, the graduate student will be listed as first author on a publication that results from their research, however, the major professor has the final authority to determine order of authors. If the student does not take initiative in writing the manuscript(s), the major professor may become first author.

III. Use of Facilities and Safety

Office and Desk Assignment
Depending on availability, every effort is made to provide desks and office space for graduate students on stipend. Desk assignments are made by the department head but are not guaranteed.

Use of Laboratory and Office Facilities
All departmental facilities and equipment are strictly for official use and are not to be used for personal use under any circumstances. This rule is specifically enforced with regard to woodworking and machine shops, computers, telephones, copy machines, printers, and other office and laboratory equipment. Experimental and teaching
materials such as scrap wood and leftover specimens are considered university property, and therefore, may not be removed from the premises for personal use.

Order and cleanliness in the laboratories, shops, and offices is the responsibility of all users. Each piece of equipment and all laboratory/shop areas must be cleaned up after use and kept clean and safe at all times. Any problem experienced with equipment must be reported immediately to the your major professor. If evidence of abuse of equipment or space is discovered, all damages stemming from such abuse will be charged to the individual(s) involved.

**Keys**

Keys to Cheatham Hall and work areas may be obtained from the College of Natural Resources Dean's Office in 324 Cheatham after obtaining written authorization from your major professor. Keys to Brooks Forest Products Center and work areas may be obtained from the Department of Sustainable Biomaterials after authorization from your major professor. A deposit is required for each key. Upon return of the keys, a request for reimbursement will be processed. Keys may not be shared or loaned by students.

**Safety**

Safety is a number one priority for everyone working in departmental shops, laboratories, and facilities. In compliance with Virginia Tech and the Department of Sustainable Biomaterials requirements, the following policies and practices have been developed to help keep us safe and minimize accidents and injuries.

Order and cleanliness in the laboratories, shops, classes, and offices is the responsibility of all users. Each piece of equipment and all laboratory/shop areas must be cleaned up after use and kept clean and safe at all times. Any problem experienced with equipment should be reported immediately to the faculty advisor or lab/shop manager.

*Training and prior approval from your faculty advisor or lab Principle Investigator (PI) is required for working in the laboratories and shops associated with our department. Before using material, facilities, and equipment, students must contact their faculty advisor and the department safety manager to assure proper instructions prior to work.*

Approval is obtained through formal training and adherence to all policies and practices described below (there may be additional requirements depending on the specific lab, shop, or class):

1) No individual is allowed to use woodworking or machine shop equipment after regular business hours (8:00 a.m. – 5:00 p.m., Monday – Friday).

2) Approval for working in laboratories after regular business hours should be secured from your faculty advisor. It is recommended that you text or call your faculty advisor upon arriving to the lab and text or call again when you leave the lab. If this is not possible, you should let your faculty advisor know you are working after hours in the lab and the expected duration of the time to be spent in the laboratory.

3) Prior to using any chemical, hazardous or not, you must consult the safety data sheets sent by the suppliers and also found on the SBIO Google Drive. These data sheets provide information on flammability, explosiveness, toxicity, and general recommendations for use and treatment for accidents.

4) Disposal of hazardous materials must be made according to State and University regulations. Information regarding chemical disposal and disposal of other hazardous substances may be obtained at Environmental, Health, and Safety Services.

5) New lab users are required to meet in person with our SBIO Safety Manager and go through the following
procedures in each lab/shop they will be working in. You will go over:

- Location and content of the Lab Specific Documentation binder. Content includes location of the VT Chemical Hygiene Plan, location of the OSHA Lab Standard 29 CFR 1910.1450, the shared SBIO Google Drive, Department SDSs locations, building evacuation map & outside meeting spot, SBIO Safety Policies, the latest Hazardous Assessment form and PPE requirements, the HazCom Plan, Lab Specific Documentation for the lab/shop which can include SOPs from the lab/shop PI, chemical storage for the space, chemical spill procedures per VT EHS, waste management, chemical inventory (checking in chemicals and removing chemicals from the lab/shop), and EHS communication.

You will be informed about the following during the in-person training:

- User’s safety responsibility
- Location of first aid kits
- Location of emergency eye wash
- Location of shower
- Location of fume hoods
- Location of fire extinguishers
- Location of the space’s chemical inventory
- Location of chemical waste, broken glass waste, sharps waste, and regular trash
- Emergency contacts for the lab/shop
- Location of lab/shop telephone, if one is present
- Minimum Personal Protective Equipment (PPE) required when working with any chemical, even those considered non-hazardous or non-toxic:
  a) closed toe shoes
  b) long pants
  c) lab coats
  d) safety glasses
  e) gloves

6) Once the in-person safety training is completed, you will sign the SBIO In Person Training Documentation, be given access to the shared SBIO Google Drive, and enrolled into VT EHS SMS for the labs/shops in which you will be working. The SBIO Safety Manager register new users immediately for all required EHS online training specified for the lab/shop by the space’s Principle Investigator or your faculty advisor.

7) You are responsible for keeping your training current and completing renewal training prior to the expiration date. If training has expired, the SBIO Safety Manager immediately registers the users and VT EHS sends an email. If you do not complete the training in a timely manner, the PI or faculty advisor for the lab/shop/class is notified.

8) ALWAYS ask questions about any procedure, reaction, process, etc. Your faculty advisor, our Safety Manager, and all faculty and staff members are here to help keep you safe in our labs/shops/classes and want to ensure your research experience is a resounding success.
## Key Milestones and Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>M.F. non thesis</th>
<th>M.S. thesis</th>
<th>PhD</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethics</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>Complete SBIO 5114 the first fall semester</td>
</tr>
<tr>
<td>Diversity and Inclusion</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>Complete NR 5984 Environmental Justice first spring semester</td>
</tr>
<tr>
<td>Major Advisor and Advisory</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>Submit to SBIO Graduate Program Director using the Plan of Study form</td>
</tr>
<tr>
<td>Committee</td>
<td></td>
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</tr>
<tr>
<td>Plan of study</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>Submit to SBIO Graduate Program Director by the end of the second academic semester in residence for Master students and by the end of the third academic semester for PhD students</td>
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<tr>
<td>Research Plan</td>
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<td></td>
<td>Submit to Advising Committee and file with SBIO within two semesters of residence</td>
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<tr>
<td>Advisory Committee meetings</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>Should meet each semester or at regular intervals</td>
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<tr>
<td>Annual evaluation report</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>Completed by Advisor, Advisory Committee, and student prior to end of spring semester each year</td>
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<tr>
<td>Qualifying exam</td>
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<td></td>
<td>✅</td>
<td>May be required for PhD students by advising committee</td>
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<tr>
<td>Preliminary exam</td>
<td></td>
<td></td>
<td>✅</td>
<td>Schedule near end of coursework BUT at least 6 months prior to final exam. Scheduled through Graduate School online system.</td>
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<tr>
<td>Completion of Coursework</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>Must complete all courses on the Plan of Study</td>
</tr>
<tr>
<td>Final Exam</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>Scheduled at least 2 weeks in advance of exam AND through the Graduate School scheduling system.</td>
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<tr>
<td>ETD (Electronic thesis/Dissertation)</td>
<td></td>
<td></td>
<td>✅</td>
<td>Due within 2 weeks after final exam. Must conform to Graduate School requirements</td>
</tr>
</tbody>
</table>
Plan of Study process

1. Graduate student selects courses and faculty advisors; fills out plan of study template with assistance from Major Advisor
2. Advising committee reviews and approves class list and service on committee
3. Student submits for Graduate Program Director’s* signature
4. Student submits signed form to Graduate Program Coordinator**
5. Form is sent to graduate student for online approval
6. Graduate Program Coordinator enters into Graduate School online system
7. Form is then sent to Graduate Program Director for approval
8. Graduate School reviews and either returns or approves plan of study
9. Approved Plan of study is available to student in Hokie SPA

* Current Director is Audrey Zink-Sharp
** Current Coordinator is Trish Colley
## Summary of Credit Hour Requirements

<table>
<thead>
<tr>
<th>Level</th>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.F. (36 total)</td>
<td>SBIO 5004 Graduate Seminar</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>SBIO 5114 Professional Skills</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>SBIO 5124 Wood Materials Science</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>One from select list</td>
<td>2 - 3</td>
</tr>
<tr>
<td></td>
<td><strong>total SBIO required credit hours</strong></td>
<td>9 - 10</td>
</tr>
<tr>
<td></td>
<td>NR 5984 Environmental Justice</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>additional credit hours needed</strong></td>
<td>26 – 25</td>
</tr>
<tr>
<td></td>
<td><strong>SUM of SBIO and additional credit hours</strong></td>
<td>36</td>
</tr>
<tr>
<td></td>
<td><strong>minimum graded credit hours within the sum total</strong></td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Project and paper (5904) maximum</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M.S. (30 total)</th>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SBIO 5004 Graduate Seminar</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>SBIO 5114 Professional Skills</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>SBIO 5124 Wood Materials Science</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>STATS class</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>One from select list</td>
<td>2 - 3</td>
</tr>
<tr>
<td></td>
<td><strong>total SBIO required credit hours</strong></td>
<td>12 - 13</td>
</tr>
<tr>
<td></td>
<td>NR 5984 Environmental Justice</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>additional credit hours needed</strong></td>
<td>17 - 16</td>
</tr>
<tr>
<td></td>
<td><strong>SUM of SBIO and additional credit hours</strong></td>
<td>30</td>
</tr>
<tr>
<td></td>
<td><strong>minimum graded credit hours within the sum total</strong></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Research and thesis (5994) minimum</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ph.D. (90 total)</th>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SBIO 5004 Graduate Seminar (twice)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>SBIO 5114 Professional Skills</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>SBIO 5124 Wood Materials Science</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>STATS classes (2)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>TWO from select list</td>
<td>5 - 6</td>
</tr>
<tr>
<td></td>
<td><strong>total SBIO required credit hours</strong></td>
<td>19 - 20</td>
</tr>
<tr>
<td></td>
<td>NR 5984 Environmental Justice</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>additional credit hours needed</strong></td>
<td>70 - 69</td>
</tr>
<tr>
<td></td>
<td><strong>SUM of SBIO and additional credit hours</strong></td>
<td>90</td>
</tr>
<tr>
<td></td>
<td><strong>minimum graded credit hours within the sum total</strong></td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Research and thesis (7994) minimum</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Transfer credit (no more than 50% of graded credit hours)</td>
<td>13</td>
</tr>
</tbody>
</table>
**SECTION 1 to be completed by faculty advisory committee:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Excellent</th>
<th>Good</th>
<th>Marginal</th>
<th>Unsatisfactory</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thesis/Dissertation Progress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance on GTA or GRA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Activities/Interactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Performance and Productivity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Has student successfully submitted the following?
- Plan of study and formation of advising committee (date:__________)
- Research Plan (date:__________) Preliminary Exam (for PhD) (date:__________)

**Review of Progress to Date**

Anticipated or Expected Future Progress:

Reasons for Selection of Unsatisfactory Category:

Suggestions or Requirements for Improvement:

**SECTION 2 to be completed by Graduate Student:**

Self-evaluation of Progress:

Signatures:

Committee Chair

Committee Member

Committee Member

Student

Committee Member

Graduate Program Director
Section 1 Guidelines for Advisory Committee Completion of Annual Evaluation

According to university policy an evaluation form must be completed annually for each graduate student. Evaluation will include GPA, courses with a grade of incomplete, progress on plan of study, preliminary exam performance, research performance, teaching performance, assistantship status and performance, departmental citizenship, and recommendations for the next review period. The department will provide a copy to the student and the Graduate School by the end of the spring semester. A student's graduate program may be terminated if progress is unsatisfactory.

**Academic Performance:** an evaluation based primarily on cumulative GPA and whether the plan of study has been completed, submitted on time, and properly updated.

**Thesis/Dissertation Progress:** whether the thesis or dissertation research plan has been approved and if satisfactory progress toward completion of the research has been achieved.

**Performance on GTA or GRA:** assessment of student’s performance in fulfilling the obligations of the assigned GTA or GRA responsibilities. It is the student's responsibility to ascertain the obligations and expectations and maintain respect for the guidelines outlined in the graduate student contract.

**Professional Activities/Interactions:** this can include contributing to our scholarly disciplines through presentations, workshops, publications, and mentoring, fulfilling responsibilities in a timely and ethical fashion, communicating regularly with the major advisor and advising committee, adhering to university, college, and departmental policies and participating in department, college, and university activities.

**Plan of Study:** It is the graduate student’s responsibility to prepare a list of the courses to be taken and get approval from the Graduate School. The **Plan of Study is due by the end of the second academic semester for all Master’s degree students** and by the end of the third academic semester for all PhD students.

**Research Plan:** All M.S. and Ph.D. students must submit a written Research Plan to the Advisory Committee **by the end of the second semester of residence**. The research plan should include a literature review, clear objectives, variables, procedures, methods of analysis, and an estimate of time and equipment required.

**Preliminary exam:** A preliminary examination is required for all doctoral students at least six (6) months before the final exam. The student’s graduate advising committee will determine the form and content of the examination.

**Review of progress:** a summary of progress the student has demonstrated to date.

**Anticipated progress:** a description of the specific tasks or accomplishments and timetable to be completed before the next evaluation or a specified deadline.

**Reasons for selection of unsatisfactory category:** an explanation of specific deficiencies noted by the committee chair or committee members.

**Suggestions or requirements for improvements:** identification of specific suggested items that would help improve the student’s performance or a description of activities or products that are required to demonstrate improvement in deficiencies prior to the next evaluation or a specified deadline.

**Overall performance and productivity:** a description of the overall strengths, weaknesses, accomplishments, deficiencies, and progress the student has displayed to date.
Section 2 Guidelines for Student Completion of Annual Evaluation

This section should be completed by the student prior to the advising committee evaluation. It should include the student’s self-evaluation of their cumulative accomplishments in the areas listed in the table in Section 1. It should include research accomplishments such as presentations, publications, proposals, data collection or analysis, and if appropriate, teaching accomplishments such as number and types of courses in which assistance was completed, teaching awards, training, and other accomplishments such as service and leadership.
Graduate Assistantship Contract

CONTRACT PERIOD: AWARDING DEPT/UNIT:

Sustainable Biomaterials

CONTRACT TYPE: Graduate Research Assistantship

CAMPUS LOCATION: Blacksburg

TUITION TERMS: Spring 2024

This appointment is for 20 hours a week, which is equivalent to 100% of full-time graduate employment. Your assistantship supervisor is 

Special Conditions:

Details of Appointment: You will be paid semi-monthly via Direct Deposit. As with any professional appointment, work-time may vary from week to week. Specific assignment of duties will be made at a later date. Please check with your supervisor regarding specific duties, hours, and work location, and work expectations over breaks and University holidays.

As with any professional appointment, work-time may vary from week to week. Specific assignment of duties will be made at a later date. University policy requires you to receive payment via Direct Deposit.

Evaluation/Contingencies: This appointment is contingent upon satisfactory performance of assigned duties and continued academic and employment eligibility.

Tuition: For the duration of this assistantship (except in summer and winter), you will receive a tuition scholarship for the in-state tuition, program fee, technology fee, and library fee, in an amount that is proportional to the assistantship appointment. This benefit is not extended to professional/executive fees. Students who are paid more than the threshold amount set annually by the Graduate School may need to pay their tuition and technology and library fees from their assistantship stipends, which should be stated under Special Conditions.

Out-of-State Fee Waiver: Non-resident tuition differential is waived under the following conditions: Fall: earn at least $20000 on assistantship stipend; Spring: earn at least $2000 on assistantship stipend; Winter: earn at least $4000 on assistantship stipend; Fall: earn at least $4000 in fall and spring or in spring. For Level 46 accelerated undergraduate/graduate degree students the out-of-state fee differential cannot be waived.

Comprehensive/CFE/Other Fees: You will be responsible for all fees not covered by this contract. Check bursar.vt.edu for fee amounts.

Taxes: Federal and state taxes, if applicable, will be withheld from your semi-monthly stipend check.

Medical Insurance Benefits: Students who maintain 50-100% assistantship appointments and who purchase the university-sponsored health care plan are eligible to receive a contribution towards their health insurance premiums. Visit https://graduateschool.vt.edu/funding/assistantships/benefits.html for more information.

Additional Employment: Full-time graduate assistants are not prohibited from seeking additional employment (restrictions may apply to international students). Consult with your academic advisor and assistantship supervisor, and notify the Graduate School of any additional employment agreements. For details refer to the Graduate Catalog.

The parties agree that this agreement may be electronically signed. The parties agree that the electronic signatures

Department Head or Designee: ____________________________ Date: ______________

Student: ____________________________ Date: ______________

☐ Accept ☐ Decline assistantship offer. Offers not accepted by 01-Dec-2023 are no longer valid.
Termination of Contract: Changes to any of the terms stated above requires issuance of a new contract. If for any reason you leave the assistantship appointment before the end of this contract, refer to University Policy No. 6210 for tuition responsibility. You must inform your department and the Graduate School in writing about terminating the assistantship prior to the contract ending date. This contract requires you to maintain your eligibility for appointment as described in the following sections.

Assistantship Appointment Eligibility
To be eligible for an assistantship, graduate students must:
• Maintain at least a 3.0 grade point average.
• Be enrolled for 12-18 credit hours for the duration of the semester during the academic year.
• Make satisfactory progress toward the degree as defined by academic department and Graduate School.
• Meet the requirements to be eligible for employment in the U.S.

Workplace Accommodations
For workplace accommodations, graduate assistants should contact the Office for Equity and Accessibility at adaaccess@vt.edu or call 540-231-1048. https://oea.vt.edu/

Academic Accommodations
For academic accommodations, graduate assistants should contact The Office of Services for Students with Disabilities at ssd@vt.edu or call 540-231-3788. https://ssd.vt.edu/

Selective Service Registration for All Males
An amendment to the Code of Virginia requires selective service compliance as a condition for employment. Newly hired male students must complete the Selective Service Registration Questionnaire before they can start work. Prospective employees who indicate on the form that they were required to register but did not register, must present verification from the Selective Service System to Personnel Services indicating the requirement is terminated or inactive before they can be hired.

If You Have Applied for Federal Financial Aid Assistance
Notify the Office of Scholarships and Financial Aid as soon as you are aware that you will receive a tuition or out-of-state fee waiver. These additional awards must be calculated in your total financial aid package and may result in the reduction of your total loan amount for that year.

Council of Graduate Schools Resolution Regarding Graduate Scholars, Fellows, Trainees, and Assistants
"Acceptance of this offer of financial support for the next academic year by a prospective or enrolled graduate student completes an agreement that both student and graduate school expect to honor. In that context, the conditions affecting such offers and their acceptance must be defined carefully and understood by all parties. Students are under no obligation to respond to offers of financial support prior to April 15; earlier deadlines for acceptance of such offers violate the intent of this Resolution. In those instances in which a student accepts an offer before April 15, and subsequently desires to withdraw that acceptance, the student may submit in writing a resignation of the appointment at any time through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of the written release from any previously accepted offer."

The parties agree that this agreement may be electronically signed. The parties agree that the electronic signatures

Department Head or Designee: ___________________________ Date: ___________________________

Student: ___________________________ Date: ___________________________

☐ Accept  ☐ Decline assistantship offer. Offers not accepted by 01-Dec-2023 are no longer valid.