

# **Fisk University**

## **Graduate Student Handbook of Policies and Procedures for GRADUATE STUDENTS and Their Advisors**

Materials for Fall 2015  
Graduate Program Matriculants

Revised July 2015

# *Fisk Graduate Student Handbook for Fall 2015 Entrants*

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### **Graduate Students! Welcome to Fisk University!**

Fisk University faculty and staff welcome you to this new stage in your career development. We are delighted that you have chosen Fisk University for your graduate studies. Our mission is to assure that each and every one of you matures professionally to your highest capabilities in order to achieve your greatest aspirations. While at Fisk, we hope you come to understand our rich history which provides the outstanding context and remarkable shoulders on which you will stand as you graduate from Fisk with an MA degree from one of our Master's programs.

As part of serving as the gateway to your future, Fisk has appointed a number of faculty and staff liaisons to provide linkages for research, graduate courses, and other career development opportunities. We hope you take the greatest advantage of these.

Speaking personally, I consider the reciprocal engagement of teachers and learners one where our goal together is to liberate each other from the fear of failure while also fostering skills and behaviors that assure we will continue to learn each and every day for the rest of our lives. Many of the elements of each of the graduate programs have been intentionally developed to achieve these larger goals in your journey to a richly satisfying professional life.

**One other thing about this handbook: It is a GUIDE, not a contract.** Just as accelerated discovery leads to changes in questions to pose and new strategies to address them, so too do graduate programs evolve in parallel with the advancement of their disciplines. Said another way, as the **STUDENT**, it is *your* responsibility to keep up with changes in your program that may occur. This will be achieved by frequent interactions with your thesis advisor and with the Director of Graduate Studies in your program. If in doubt, please know that you are always welcome to visit me in my office.

Best wishes on this new phase of your life journey!!

*Lee Limbird*

Lee E Limbird, PhD  
Dean for Graduate Studies  
Fisk University  
Office: 205 W.E.B. DuBois Hall  
Email: [llimbird@fisk.edu](mailto:llimbird@fisk.edu)

Marian Burns  
Assistant to the Dean of Graduate Studies  
206 W.E.B. DuBois Hall  
Email: [mburns@fisk.edu](mailto:mburns@fisk.edu)  
Phone: 329-8664

## **Overview of the Graduate Programs at Fisk University**

Fisk University is a historically Black liberal arts college with a rich history and contribution to the development of leaders and scholars of color in our country. Matriculants to Fisk MA programs in 2015 are participating in our MA programs in Biology, Chemistry, Clinical Psychology, and Physics. Fisk also is engaged in multiple partnerships with other institutions to link our Master's trainees with PhD programs in their field of interest. Examples of those programs include the Fisk-Vanderbilt Masters-to-PhD Bridge Program in Physics, Chemistry, and Biology (see [www.fisk.edu/bridge](http://www.fisk.edu/bridge))

### **Administration of the Graduate Programs**

The Dean of Graduate Studies is the Convener of the Graduate Council, made up of the Directors of Graduate Studies for all of the Fisk graduate programs and critical staff members. The Council also has *ex officio* faculty members who lead the funded Programs that provide essential resources for student tuition and stipends.

Membership of the Graduate Council, 2015-2016 Academic Year

Lee E. Limbird, PhD, Dean of Graduate Studies, & Council Chair

Brian Nelms, PhD, Biology

Natalie Arnett, PhD, Chemistry

Arnold Burger, PhD, Physics

Sheila Peters, PhD, Clinical Psychology

Dina Myers Stroud, PhD, Exec. Dir. of the Fisk-Vanderbilt Master's-to-PhD Bridge Program

Marian Burns, Assistant to the Dean of Graduate Studies

### **Graduate Student participation in Graduate Council meetings is welcomed.**

*Ex officio, invited but attendance optional*

Steven Morgan, PhD, Professor of Physics, Chair of Life and Physical Sciences

Rodney S. Hanley, PhD, Provost and Vice President for Academic Affairs

Princilla Evans Morris, PhD, Director, Center for Teaching and Learning

The Council is responsible for the ongoing review and improvement of the component graduate programs and the development of trans-program professional and skills development programs for the Graduate Students.

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### **Admission Requirements and Application Process**

Admission to the Fisk University Graduate Program is open to persons who have graduated from an accredited college and earned a B.A. or B.S. degree in the field of interest of the graduate program. Specific course requirements are outlined for each of the graduate programs in the following materials.

Consideration for admission to the Graduate Program at Fisk University requires that the following materials are submitted to the Office of Graduate Studies ([lilmbird@fisk.edu](mailto:lilmbird@fisk.edu) or [mburns@fisk.edu](mailto:mburns@fisk.edu)) or the Office of Admissions and Records at Fisk University. Admissions decisions will only be made once a complete application has been received. Note, for students applying to the Fisk-Vanderbilt Masters-to-PhD Bridge program, additional application materials will be provided to you by Constantine Coca ([ccoca@fisk.edu](mailto:ccoca@fisk.edu)), as outlined on p 20 of this Handbook.

1. A **completed application form for graduate study** should be sent to the Office for Graduate Studies, c/o Marian Burns ([mburns@fisk.edu](mailto:mburns@fisk.edu)) including the application form (available online at [www.fisk.edu](http://www.fisk.edu)) or from Ms. Burns. This application form should be accompanied by a personal statement, and an indication of who will be providing the three letters of recommendation in the applicant's behalf.
2. **Official transcripts of all undergraduate work.** These must be submitted directly to the Office of Admissions and Records by the registrar of the institution awarding credit for the completed work; unofficial transcripts should be attached to the Application form that is sent to Ms. Burns ([mburns@fisk.edu](mailto:mburns@fisk.edu)).
3. A **personal statement** addressing specific issues pertaining to knowledge, work and/or research experiences, goals and/or interests in the chosen field
4. **Three letters of recommendation, directly from the recommenders to Fisk University,** preferably from persons who are familiar with the applicant's academic and/or professional capabilities.
5. Adequate skills on the college level in reading and in spoken and written English are expected of all graduate students. If English is not the student's primary language, a TOEFL examination is required for consideration by the admissions committee.
6. **Graduate Record Examination (GRE) scores for the General Test are also required.** These scores should be sent to Ms. Marian Burns, the Office of Graduate Studies, Fisk University, Nashville TN 37208-3051 as part of the application for admission.

### **Recommended Deadlines:**

*Early Acceptance* into our Graduate programs is possible. The deadline for consideration for early admission is December 1<sup>st</sup> of each year. Applicants will be considered in December, and funding decisions confirmed by January 1<sup>st</sup> of the year for fall matriculation.

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**General Acceptance Deadlines** Completed applications that will be most competitive for Federal funding of Tuition and Graduate Student Stipends are due by March 15<sup>th</sup> for the following fall term. Although the recommended deadline is March 15<sup>th</sup>, applications should be submitted as early as possible to receive full consideration for all Fellowship funding and special research or other opportunities. Later applications are occasionally considered, but resource allocation for tuition and stipends may be completed by April 15<sup>th</sup>. Though applications may also occasionally be considered after April 15<sup>th</sup>, resources by that date are often already allocated.

Inquiry and application for financial aid is contingent on the resources of the University and special research or training funds available.

**Notification of Admission** is made informally by The Director of Graduate Studies for the program for which a student applies. *The offer letter of admission comes from the Office of the Dean for Graduate Studies, and also clarifies the funding for tuition and stipends, and will be cosigned by the person with authority over the resources for tuition and stipend for each particular student as well as by the Dean for Graduate Studies.* A subsequent letter will be provided by the Office of Admissions, Fisk University.

### **Matriculation into the Graduate Program at Fisk University.**

#### **General Orientation:**

All incoming graduate students **MUST** be present on the Fisk Campus for the Orientation Meeting, and accepted students will be informed about the date, time and location for each academic year. **For Fall 2015 Entrants, Orientation is Monday morning August 4<sup>th</sup>, and will be held in the Board Room of Fisk University, Cravath Hall, second floor.** Participants in the Master's-to-PhD Program will have a continuation Orientation meeting on August 4<sup>th</sup>, also in the Board Room of Fisk University. Entering Graduate students will receive a detailed Orientation Agenda in July, if not earlier.

**Some of the graduate programs have pre-matriculation 'bootcamps', and relevant students will be apprised of those in advance.**

#### **Overall components of the Orientation:**

-Welcome from the Dean of Graduate Studies, and the overall Roles and Responsibilities of Students, faculty advisors and graduate student mentors at Fisk University for the graduate experience

-Distribution of a hardcopy of the Graduate Student and Advisor Handbook, and its significance.

-Overview of the **TIMELINE** for completing each aspect of the Graduate Program

-Introduction of the Various Graduate Programs and their Directors for Graduate Studies.

-Introduction of Resources for the Students: Writing Center; eLibrary resources; Counseling, etc.

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### **Housing:**

**Graduate school and graduate studies are not undergrad studies “on steroids”.** Graduate training is a 24/7 type of experience in learning didactic content and applying that learning to solving currently unsolved problems. Though students may find it easiest to select on-campus housing, *our experience is that academic success in graduate study is best achieved via off-campus housing*, where the social life and semester timelines of undergraduates do not interfere with or distract graduate students from their more advanced and largely independent studies.

Any student who nonetheless wants to reside on campus will need to fill out a housing request form located on the Fisk website under the Office of Student Engagement, <http://www.fisk.edu/CampusLife/HousingAndResidenceLife/HousingForms.aspx>. The cost of this housing also can be obtained from the Office of Student Engagement.

Students who do not intend to live on campus, and/or have not received advanced acknowledgement that on-campus dormitory space is available should arrive two to three days *in advance* of graduate student orientation to assure that they secure suitable housing.

Rental housing can be found in local papers (The Tennessean; the City Paper- both available online), via Craigslist, or *via* word of mouth from other current graduate students or staff.

### **Fisk Resources for Graduate Students**

#### **1) Course in Professional Skills for all first year graduate students.**

All entering graduate students participate in a weekly 90 min session during the first Fall semester that focuses on achieving success in their graduate program. This course is *required* for all trainees in the natural sciences, and is recommended for Clinical Psychology trainees if no evening courses conflict with this session. One academic credit is provided for participating in this course.

This seminar style introduction to Graduate Studies and the Responsible Conduct of Research is coordinated by Dean Limbird, with involvement of faculty and staff at Fisk University. This required course addresses professional skills, including but not limited to: time management; ethics, honesty, and plagiarism; electronic bibliographic tools; use of the Library and its digitally linked tools; introduction to Responsible Conduct of Research; the importance of oral and written communication; and a detailed introduction to poster presentations. Other topics include social science understandings about stereotype threat, imposter syndrome, and the diversity of the scientific workforce and its cultures. A draft syllabus is provided on the first evening of class, and the particular entering cohort provides input about the topics they most want to emphasize. Faculty lead each session thereafter, following a trainee-informed syllabus, but two graduate students help lead the discussion and draw out thoughts about the pre-reading assigned for each session. The course ends with a poster presentation where first year students describe the overall research objectives of their research supervisor’s program, and the specific project/project area in which they will do their individual thesis research.

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### 2) **Additional Professional Skills Workshops/Courses/Resources**

Throughout the year, workshops are given that focus on professional skills needed by graduate students for their thesis preparation and in achieving their overall professional goals.

- Fall first year workshop on preparing NSF Fellowship applications (dives into deeper detail than in the Professional Skills class). This workshop is led by Dina Myers Stroud, PhD, Executive Director of the Fisk-Vanderbilt Master's-to-PhD program
- A course in Scientific Writing is taught by Lee E Limbird, PhD, each Spring, is required for biology and chemistry graduate trainees and is open to all graduate trainees. This course has as its final grade assignment the development of the first chapter of a Master's trainee's thesis.
- A thesis writers' workshop is held one Saturday each Spring, in partnership with the Fisk University Writing Center, to facilitate second year students' completion of their MA thesis document.

Additional workshops will also be made available, in partnership with the Career Office of Fisk University, including: resume and CV preparation; learning about, applying and interviewing for PhD programs or for career positions (with mock interviews). We welcome additional topics of interest to students.

- **The Fisk University Writing Center** is a resource for all Fisk students, undergraduate and graduate students alike. Students are encouraged to visit and meet with a tutor at any stage of the writing process, from brainstorming a topic to making final revisions. The Writing Center is located on the first floor of DuBois Hall, as part of the AESP (Academic Excellence and Student Performance) program.

Tutoring to improve writing skills is also available. While the tutors will not proofread papers for students, they *will* help students acquire the skills they need to create, revise, and edit their own writing in a friendly, pressure-free atmosphere. Tutoring options include 25 and 50 minutes sessions, by appointment and walk-in (when available). Longer sessions may be available for graduate students who set up a long-term tutoring plan for thesis work. Students may sign up for an appointment by visiting the Boyd House during Writing Center hours, or emailing Prof. Hamby. For more information, please contact the Writing Center Director, Prof. Holly Hamby, at [hhamby@fisk.edu](mailto:hhamby@fisk.edu).

- 3) **Personal Counseling.** Fisk University supports a Counseling Center. Students will be able to schedule a consult within this Center within 48 hours and, in emergencies, within 24 hours. The current EMERGENCY CONTACT is Dr. Sheila Peters, 615-497-2963, a licensed clinical psychologist who will identify the most appropriate clinical professional to meet a particular student's needs.

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### **Tuition, Fees and Financial Aid**

A graduate student is classified as full-time if enrolled for nine or more credits (See Student Classifications, below). A graduate student, whether a master's candidate, a student in graduate standing, or a conditional graduate student, may be enrolled on a part-time basis only with the permission of the Director of Graduate Studies and approval by the Dean of the Graduate School.

Full graduate tuition is charged for 9-12 hours of graduate level courses (or a combination of undergraduate and graduate level courses). Students enrolled for more than twelve credit hours (overloads) are charged at the current rate of tuition per credit hour for Fisk University.

Financial assistance is available to qualified students through tuition waivers granted by the University and through graduate student stipends/research assistantships funded by various grants and contracts to the University or to Fisk University faculty members.

**Students who receive fulltime stipend support are not permitted, based on the mandates of the Federal funding for these stipends, to engage in part-time work; the basis for the stipend funding is to permit students to focus fully on their learning and research discovery.**

Part-time students or students without stipend funding will need to identify a source of living expenses; non-research related work should be reviewed with the thesis advisor and Director of Graduate Studies for the program in which the student is enrolled to make sure that the work schedule allows realistic completion of course or research expectations.

**Student Classification** – Below are the definitions of various classifications of students in Fisk University Graduate Programs:

**Graduate Classification** is in general given to students who have already earned a bachelor's degree. Students in graduate standing are those who have been admitted for study leading toward the Master of Arts degree.

**Graduate Special Students** are those who hold bachelor's degrees and are enrolled in the University but have not been admitted for study toward the Master's degree and may or may not intend to seek degree candidacy. Graduate special students often enroll in order to pursue undergraduate courses required as prerequisites to full graduate standing, and must have the permission of the instructor for enrollment in any courses at the graduate level (numbered 500 or above). Graduate special students also may wish to pursue studies in those Fisk departments that do not offer the master's degree.

**Conditional Graduate Standing** is primarily used for students who seek a graduate degree but have not met the normal requirements for full graduate standing. Students in conditional graduate standing may seek full graduate standing when the deficiencies have been corrected. Special conditions may apply to students in this status. They are expected to attain a 3.0 GPA or better and may, in addition, be expected to pass a particular required course or demonstrate proficiency in a particular subject, in order to be placed in full

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graduate standing at the end of one semester of study. Ordinarily, students may remain in conditional standing for no more than one semester.

**Full-time graduate students** are enrolled for nine or more credits. Graduate students carrying fewer than nine credits are also regarded as full-time, however, if they are enrolled for Thesis Research or Thesis Preparation, or if they are engaged in an approved graduate practicum. A graduate student, whether a Master's candidate, a student in graduate standing, or a conditional graduate student, may be enrolled on a part-time basis only with the permission of the Graduate Program and approval by the Dean for Graduate Studies..

**Master's Candidates** are those who have completed approximately half of the requirements for the M.A. degree and have been formally admitted to degree candidacy and to thesis research by the graduate faculty of the particular graduate program.

### **Withdrawal and Leave of Absence**

Withdrawal in good standing from graduate studies requires the student to file the normal withdrawal papers, obtainable from the Office of the Registrar. A student who withdraws in good academic, financial, and disciplinary standing with the University is normally permitted to re-enroll upon approval of a standard application for re-admission. Absence for more than two years, however, may require the student to prepare a new study plan meeting new requirements as amended since the student's initial matriculation.

Students unable to officially withdraw from the University due to an emergency (illness, death in the immediate family, military deployment, etc.) must submit a written statement of the emergency to the Dean for Graduate Studies, the Provost, the Vice President of Student Life, or the Director of University Counseling Services, Dr. Sheila Peters. If the student is incapacitated, any of the above individuals can submit a letter on behalf of the student based on communication received from the student's parents, family, etc., stating the effective withdrawal date to the Office of the Registrar.

The University reserves the right to withdraw students from the University due to an emergency or disciplinary suspension. These students' academic records will reflect "WA" (Withdrawn Administratively) for all enrolled courses. Please note, financial aid adjustments will occur for recipients receiving Federal Financial Aid withdrawn administratively before the 60% point in the semester.

A Leave of Absence in good standing may be granted for a variety of reasons to students wishing to interrupt their studies at Fisk and request time away from the University. Students wishing leave for a specified period must obtain the withdrawal form from the Office of the Registrar. Upon approval by Dean of Graduate Studies and the Provost, the student must specify a time period during which the leave of absence will be valid. Upon conclusion of the leave or at any time thereafter, the student may return by making formal application for re-admission. Students who depart from the University without obtaining the permission of the Provost may be denied permission to re-enter.

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Students on leave of absence will not be granted credit for college work done out of residence, unless they have received prior approval from the Provost. A student who takes a leave of absence in good standing receives grades according to normal Fisk grading practices.

### **Grading System**

The course grading system at Fisk for graduate studies is as follows:

- ⤴ The grade of “A” indicates work of high quality.
- ⤴ The grade of “B” indicates good work.
- ⤴ The grade of “C” indicates unacceptable work.
- ⤴ The grade of “D” indicates failure in the course.

Plus and minus grades may be attached to letter grades. Grades awarded with a minus (“-”) indicate achievement at the lower limit for that grade; grades awarded with a plus (“+”) indicate achievement at the upper limit for that grade.

The minimum acceptable grade point average in all coursework towards the degree is a “B-” (2.7). Courses completed with grades of C+ (2.3) or below are not counted toward degree requirements, but such grades will be counted in calculating a student’s grade point average. Students may either retake the course for a higher grade, i.e. 3.0 or better, to count toward their MA degree, or take another course instead. HOWEVER, since all courses *are* counted in calculating a student’s GPA, it is important to clarify that an “A” grade in Thesis Research (or in Thesis Preparation) may *not* be used to offset “C” grades in other graduate courses. The overall GPA of a graduate student must be 3.0 or above to qualify for graduation with the master's degree. Furthermore, when a student is enrolled at Fisk and takes a Vanderbilt course and earns a B- in that course, the credit can be applied to their MA work but it will not transfer for credit at the PhD level at Vanderbilt. Only a B grade or above will transfer.

<b>Grade</b>	<b>Points</b>
A	4.00
A-	3.70
B+	3.30
B	3.00
B-	2.70
C+	2.30
C	2.00
C-	1.70
D	1.00
E	0.00

The grade of “I” (Incomplete) is given when a student has substantially and satisfactorily completed most of the work in a class, but cannot complete all course requirements within the semester. The student must have achieved an average of “B” or better in work completed for the course to request an “I” grade, and is responsible for assuring that both student and instructor have a clear understanding of the requirements and timeline for completion of the “I” grade. The “I” grade must be removed prior to obtaining permission to defend the Master’s thesis.

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Pass-fail registration for graduate students is permitted under certain circumstances:

- Graduate students may take non-required undergraduate courses outside the major field on a pass-fail basis. These courses are not considered in computing grade point average, nor are they counted toward the total hours necessary for graduation. A "pass" grade in such a course indicates work equivalent at least to a letter grade of "B".
- ⤴ No more than one course per semester may be taken on a pass-fail basis.
- ⤴ At the time of registration, the student must indicate any course to be taken on a pass-fail basis.
- ⤴ Students entering courses on a pass-fail basis are held to the same standards of achievement as other students. They are expected to meet recitations, tests, papers, and examinations.
- ⤴ The Registrar sends each instructor, at the beginning of the semester, a list of students registered on a pass-fail basis in that instructor's classes.
- ⤴ No student, once registered for pass-fail evaluation in a given course, may subsequently change registration to a letter-grade basis; nor may a student once registered for a letter grade subsequently elect the pass-fail option.

### **Acceptance of Transfer Credit in the Graduate Program**

Fisk University will accept a maximum of six (6) graduate credit hours in course work from an accredited institution that offers at least the M.A. degree. Students must have earned a minimum grade of "B" or better in a course to request the transfer of course hours. Hours from accepted transfer courses must have been above and beyond those needed for an earned undergraduate degree. Any courses requested for transfer must be approved by the Director of Graduate Studies for the Program, the Dean of Graduate Studies, and the Registrar's Office. The Director of Graduate Studies, in consultation with the relevant Department Chair, will determine whether the courses substantially match courses offered at Fisk in level and content. Denial of transfer credit by the Graduate Program Director ends the request.

The Registrar has ultimate responsibility for all student academic records and will verify the credentials of the institution from which the transfer credit is sought.

The transfer credit policy does not apply to schools that are a part of the consortium to which Fisk is a member or other institutions where formal agreements exist for the graduate program, where the transfer of credits may be automatic. Under these circumstances, students should consult with the appropriate Director of Graduate Studies for their program.

### **Requirements for the Graduation with the Master of Arts degree include the following**

- 1) Completion of at least **30 semester hours of coursework**, with an average grade of "B" or above in each course approved for the program, including both didactic courses and research. Students can obtain *no more than two grades of C*, and these credit hours must be balanced out by the same number of credit hours in which a student obtains an A. This 'balancing' can only occur using grades from a didactic course, and not by grades from Thesis Research or the Graduate Seminar in a particular discipline.

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- 2) The required 30 hours of coursework should include **least 21 hours in courses intended principally for graduate students (numbered 500 or above)**. A maximum of six hours of graduate coursework may be transferred from another accredited institution. These 30 hours of coursework should include at least 3 registered hours, and no more than 6-9 hours (depending on the graduate program) in **Thesis Research**, that count toward this 30 hour requirement. To allow students to be registered for at least 9 hours per semester ( i.e. as a full-time graduate student) during their training, students may also register for **Thesis Preparation**, but the hours registered for Thesis Preparation do NOT count toward the 30 hours of graduate work.

The grade requirements beyond the minimum 30 hours may be set by the graduate faculty of the program, but the overall GPA of a graduate student must be 3.0 or above to qualify for graduation with the Master's degree. Courses may be repeated no more than once for a higher grade, and when this is done, only the last grade received is counted toward the degree or in computation of grade point average.

- 3) In some programs, when explicitly stated, the number of credits required may exceed 30 credits. Completion, at a passing level, of an oral examination, or both an oral and written exam, depending on the program, administered by the graduate faculty of that program.
- 4) Completion of a satisfactory Master's thesis on a subject approved by the student's research mentor/supervisor and the members of the student's thesis committee.
- 5) Receipt and approval of three copies of the thesis submitted in final form to the Library following the thesis defense and after corrections have been made in response to requests from the thesis committee. The final thesis document for the library is printed on special bond paper, and each copy must have an *original* signature page signed by thesis committee members. Two of the three copies of the documents submitted to the library will remain the property of Fisk University; one of the copies bound by the library will be returned to the student. The cost for binding of these three copies is part of the commencement fees for MA graduates; the cost of the paper is a cost borne by the student.

Additional personal copies may be bound by the student at a cost to the students. These additional copies can be requested from the same bindery as used by Fisk University or via other services (e.g. FedEx Office). Many thesis advisors prefer a pdf version of the thesis to a bound copy, which minimizes costs to the student.

- 6) The student is expected to take responsibility for knowing *and* complying with any additional requirements specific to the student's graduate program.

### **Overall timeline for Graduate Studies**

The Master's degree at Fisk University in the Natural Sciences should reasonably be completed within two calendar years. A consistent timeline for **the MA in biology, chemistry, and physics is provided below**. Because of the clinical practicum requirements of the Master's Program in **Clinical Psychology**, this timeline will differ for those students.

#### **Fall Semester, first year:**

- **Required courses**, determined in consultation with the Director of Graduate Studies in your program

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- Participation in the **Graduate School Professional Skills for Graduate Study Success Seminar** (1 Cr.; weekly, required- described in more detail below). The final assignment in this course is an electronic Poster Presentation of the overall research area under investigation in your anticipated research advisor's laboratory and the probable research project that you will undertake as your research thesis. **Note that this assignment assumes (and requires) that students have been aggressively pursuing the identification of their research mentor.**
- **Selection of research mentor:** In some programs, students will enter graduate studies knowing who their research mentor will be. In other programs, students will be expected to visit and meet with at least two and generally more thesis dissertation supervisors who are accepting new graduate students the Fall of their matriculation to learn about their work, read their papers, and in discussions with the faculty member, learn if their research program is a match for a student's interests and preferred learning environment. If students are accepted with already-defined research supervisors/mentor, the student's mentor will take responsibility for introducing the graduate student to other ongoing work in the discipline ongoing at Fisk and at our collaborating institutions.
  - o In those programs where students are matched with a mentor/thesis advisor prior to matriculation, students will be expected to spend a defined minimum amount of time in that laboratory learning methods and reading relevant papers
  - o **Declaration of master's thesis research mentor/supervisor is required by the close of the Fall semester**
- Fulfillment of any other program-specific requirements, as outlined in Sections II-V.

### **Spring Semester, first year:**

- **Coursework** required by the program or electives identified by student and or graduate student advisor. Remember that courses at Fisk and Vanderbilt Universities are available for Fisk student registration.
- In concert with Master's thesis advisor, begin to outline a detailed research project and plan, as this summary will be the focus of your **first thesis committee meeting which should occur in the Spring semester of the first year.** Begin a literature summary of state of knowledge in this area, unanswered questions or gaps in understanding, and what aspects of this your research will address. Developing this written review provides an opportunity to hone scientific writing skills as well as provide the written background for the student's first thesis committee meeting and the written thesis proposal. Finally, this summary ultimately will be the backbone of the Literature Review section of the Master's thesis and of the Introduction to the thesis proposal.
- **Create a thesis committee;** and summarize your proposed research in a short document to share with the rest of your thesis committee in advance of your Committee meeting. **Schedule a Committee Meeting in the SPRING SEMESTER, and certainly no later than within the first two weeks of the Summer Semester of the first year. FOR EACH AND EVERY THESIS COMMITTEE, you will be expected to not only provide your research update presentation, but also an updated CHECKLIST/BALANCE SHEET that reflects where you are in meeting all of the coursework and other program obligations for your MA**

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**degree program. Those checklists are provided in each of the Sections for Biology, Chemistry, and Physics**

- Participation in Graduate Program-specific required programs, such as seminars, Colloquia, etc.
- Students whose academic performance is below the required B average ( GPA of 3.0) at the end of the Spring semester will be put on academic probation; the status of continued or interrupted funding during academic probation will be decided after consultation of the student's research supervisor/mentor and the DGS for the program, with approval of their decision by the Dean for Graduate Studies. Students will not be eligible for tuition waivers from Fisk University while on academic probation.

### **Summer, at the end of the First Year**

- This time is set aside for *fulltime research*.
- Elective courses that are only available in the summer may be taken, but only with written approval of the Director of Graduate Studies of the Program, cosigned by the Dean of the Graduate School
- **Selection of appropriate courses for the Fall** should be identified in consultation with your thesis advisor and the Director of Graduate Studies for the program.

### **Fall Semester, Second Year**

- **Courses**, as advised by the thesis research advisor and Director of Graduate Studies, including electives relevant for student's research project
- **Participation in Graduate Program-specific required programs, such as seminars, Colloquia, etc.**
- **Meet with Thesis Committee early in the Fall semester to review the progress of the summer.**
- **Submit, in December, Sections A (Student personal information) and B (graduate school academic audit) of the form “ Request for Permission to Graduate “** to the Office for Graduate Studies, who will provide this information to the Registrar's office. This form is due in the Registrar's office by the stated December deadline for the Academic Calendar of that year (each Academic Year's calendar is available on line). Students whose coursework, coursework performance, and/or research has not progressed in a timely fashion will need to develop a timeline for delayed graduation. **HOWEVER, please note that stipend funding is only committed for 24 calendar months.**

### **Spring Semester, Year two**

- **Continuing research**, finding national and regional meetings and other venues for continuing presentation of project results and experimental plans; presentation at the Fisk Annual Research Day in the Spring is expected (read: required)
- Participation in Graduate Program-specific required programs, such as seminars, Colloquia, etc.
- **Meet with thesis committee to update members on progress** and establish if work is complete enough to begin the development of the thesis document.

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- Development of an *outline* of the thesis document, for review by the Committee no later than February 15<sup>th</sup>, including principal literature sources, and data to be included

### **Planning for completion of the Master's degree**

Though each program will additional recommendations regarding the overall timeline for: 1) thesis document preparation; 2) review and approval by the research mentor/supervisor; 3) and consideration by the Thesis Committee, below we outline a PROACTIVE plan for successfully completing you MA program with a degree in hand. **We use the MAY commencement completion time as our specific example in outlining these recommendations. HOWEVER, note that for students in the Fisk-Vanderbilt Master's-to-PhD Bridge program, completion of the Master's degree is planned to occur in AUGUST of the second year, so that there is no gap in stipend funding between completing the MA requirements in full and the initiation of the PhD phase if attending Vanderbilt (August 15<sup>th</sup> of the second year )**

**Please note: Students have NOT officially received their MA degree UNTIL their corrected and approved thesis has been received by the Fisk University Library, and the student is provided with a receipt to take to the Office of GRADUATE STUDIES ( Rm 206 DuBois) and the Registrar (Cravath Hall) . Do not be misled and think that presentation of your thesis research in a defense seminar equates with receiving an MA degree, because it does not!**

**Formal Commencement activities are only available in May.**

### **Schedule for Completion of Work to Graduate in the MAY Commencement.**

Specific dates for EACH year are available on the Academic Calendar (available online) AND in the Registrar's Office.

- December: Complete Relevant Sections (A, B) of the *Multi-Part Form " Request to Permit Conferring Master of Arts Degree"* and submit to Graduate School Office
- A. Student Information (due the semester before graduating)
  - B. Academic Information (also known as the 'graduate school audit')
- March: Research Mentor Approves Thesis *before distributing to Committee members*

April: Thesis distributed to Committee at least two weeks prior to the Defense date

Submit Form C. Permission to set a Defense Date. The Public Defense MUST OCCUR at Least TEN DAYS prior to the deadline at the Library for all thesis document materials, in order to permit completion of any corrections to the thesis document identified by the Thesis Committee at the time of the Public Defense

Receipt obtained from the Library for provision of three copies of the thesis , with a completed faculty signature page, and according to the format required by the Graduate School.

May: Graduate and, if desired, participate in Commencement Exercises

### **Graduation Dates on the Transcript**

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The Office of the Registrar will record graduation dates according to when all materials are completed. There are three possible dates that may be recorded. **The May graduation date** (whose deadlines are summarized above) is the only date associated with a Commencement Exercise. Deadline dates for materials are published at the beginning of each academic year on the Academic Calendar (available online) and strictly adhered to.

If all required materials and activities are completed and submitted after Commencement, but before the start of the Fall semester, the graduation date will be recorded with an **August completion date**. All materials must be completed and submitted appropriately by the date summer school grades are due.

If all required materials and activities are completed and submitted after the start of the Fall Semester, and prior to the start of the Spring semester, the graduation date will be recorded with a **December completion date**. All materials must be completed and submitted appropriately by the date Fall semester grades are due. Departmental requirements for practice oral, deadline requirements for submission of thesis to research committee, department faculty and invited examiners and deadline date to defend the thesis work in a public forum apply to this graduation date.

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<b>Master's Degree Checklist for Fisk University conferred MA in Biology, Chemistry, and Physics</b>	
Milestone	Due date – for exact date, confer with the Academic Calendar for each academic year ( <a href="http://www.fisk.edu">www.fisk.edu</a> )
Establish your <b>Master's Degree Examination Committee</b> , composed of your <b>Faculty Research Advisor</b> and at least 2 additional faculty members (maximum of 5). The Committee members must be selected in consultation with your Faculty Advisor and aligned with the expectations of the particular graduate program	Should be done by the end of the first semester, but in any event <b>no later than early in the second semester (end of February)</b>
<b>Use Forms for tracking students' progress in their MA program as provided in Appendix B of the Graduate Student Manual:</b> 1) Request to Appoint Thesis Committee 2) Request to Change Thesis Committee (if necessary) <b>3) Summary of Thesis committee meeting (this 2page summary is required following EACH meeting of the thesis committee- beginning with the Spring semester of the first year, and a minimum of one meeting each semester thereafter)</b>	<b>Beginning in the Spring Semester of the First Year</b>
Submit to Graduate Studies Program Office (Room 206 DuBois Hall ) the following sections of (Sections A-F) of the multi-part form " <b>Request for Permission to Confer the Master's of Arts Degree</b> ", provided in Appendix B of the Handbook: A. Student information; B Academic Information ( equivalent of Graduate School academic audit); C. Summary of the Thesis Committee meeting at which students given permission to write their thesis, affirming all research for the degree has been completed (usually Spring Semester, year 2); D Request to schedule a thesis defense (signed by all committee members, thesis advisor, and Director of Graduate Studies of the program); E. Results of Thesis Defense; and F. Information for printed materials for May Commencement.	<b>Sections A and B:</b> due in early December of the year before you plan to graduate. <b>Section C:</b> Usually spring of year 2 <b>Section D: After thesis advisor has approved the entire thesis text for distribution to the Committee, and at least two weeks before the Defense date. Sections E, F- after defense.</b>
<b>Maintain a cumulative GPA of at least 3.0</b> to avoid being placed on academic probation.	A graduate student on probation must raise the cumulative GPA to 3.0 within one semester.
Register for <b>Research hours</b> .	<b>Before graduation</b> you must registered for at least 3 and at most 9 credit hours of <b>Thesis Research</b> (depending on program)
Register for <b>Thesis Preparation</b> hours.	Register for Thesis Preparation to allow you to maintain <b>full-time status</b>
<b>Thesis Defense.</b> It is your responsibility, in consultation with your research advisor, to schedule the thesis defense. The Office of the Graduate School (Ms Marian Burns: <a href="mailto:mburns@fisk.edu">mburns@fisk.edu</a> ) or the Fisk Bridge Program Coordinator ( <a href="mailto:ccoca@fisk.edu">ccoca@fisk.edu</a> ) are available to assist with scheduling.	To be properly advertised, please notify Ms Marian Burns and/or Constantine Coca of the thesis defense date, time, and title.
<b>Submit three copies of your thesis in final form to the Fisk Library</b> , formatted according to the Office of Graduate Studies regulations. A manual for the thesis preparation may be found in the Fisk Library or on the Fisk University website. <b>Receipts from the library indicating receipt of approved copies of the thesis MUST be provided to Ms. Burns (<a href="mailto:mburns@fisk.edu">mburns@fisk.edu</a>) or Constantine Coca ( <a href="mailto:ccoca@fisk.edu">ccoca@fisk.edu</a> ) , for them to scan them for our records and provide to the Office of the Registrar. The receipt from the Library, <i>NOT your final oral defense!!!</i>, is what constitutes the formal completion of your MA Degree.</b>	<b>April</b> for May diploma
	<b>July</b> for August diploma; Bridge students completing after the first day of FALL CLASSES will have a December date on their diploma.
	<b>December</b> for December diploma

## **The Fisk-Vanderbilt Masters-to-PhD Bridge Program**

### **I. General**

The Fisk-Vanderbilt Masters-to-PhD Bridge Program was designed by Fisk and Vanderbilt faculty dedicated to expanding opportunities for students to succeed in earning a PhD. This program is intended for motivated students who seek careers in the natural sciences, but who may need (or want) additional coursework, training, or research experience before beginning PhD-level work.

**The program is flexible and highly individualized to support the goals of the student.** Courses are selected to address any gaps in undergraduate preparation, and research experiences are designed to help pave the way for PhD-level work in the chosen area of study. While at Fisk, students enjoy regular interaction with Vanderbilt faculty and graduate students. This includes access to research facilities and instructional opportunities at Vanderbilt and, in some cases, Master's thesis work performed under the supervision of Vanderbilt faculty.

In all cases, the Fisk-Vanderbilt MA to PhD Bridge Program develops mentoring relationships between students and faculty that will foster a successful transition from the Masters to the PhD

### **II. Admission to Fisk and to the Fisk-Vanderbilt Bridge program**

- A. The student applies for the Fisk MA program in their discipline concurrent with a concurrent application to the Bridge Program. **The *current* bridge program research and training opportunities are in Biology, Chemistry, Physics, Interdisciplinary Materials Science, and Astronomy.**
- B. Bridge applications can be obtained from Mr. Constantine Coca ([ccoca@fisk.edu](mailto:ccoca@fisk.edu)). The completed Bridge Application should also be sent to him as a compiled pdf document.
- C. Students already participating in an MA program in one of the natural sciences at Fisk and in good standing may also request admission to the Bridge program. This must be done at least one year prior to the planned completion of the Fisk MA degree.
- D. Admission to the Fisk-Vanderbilt Bridge program will be determined by the Fisk-Vanderbilt Bridge program Admissions Committee. This committee consists of, the Directors of Graduate Studies in Biology (Brian Nelms, PhD), Chemistry (Natalie Arnett, PhD) Physics (including Materials Sciences and Astronomy, Arnold Burger, PhD); and, in his role as Chair of the Department of Life and Physical Sciences at Fisk, Steve Morgan, PhD. The Committee also involves the Vanderbilt faculty liaisons for the Bridge: For Biology, Donna Webb, Associate Professor of Biological Sciences; for Chemistry and Materials Science, David Cliffler, Professor of Chemistry, Vanderbilt; for Physics, David Ernst; and for Astronomy, Kelly Holley-Bockelmann, Associate Professor of Physics and Astronomy. The Bridge Program Co-Directors, Drs. Kelly Holley-Bockelmann and Arnold Burger, and Executive Director Dr. Dina Stroud also serve on

the Committee.

### **III. Facilitating a Successful Transition to the PhD: Programmatic Elements**

It is an explicit goal of the Fisk-Vanderbilt Bridge program that students in the program will become well-known to a number of Vanderbilt faculty by the time that they are ready to apply to the Vanderbilt PhD program, thus allowing for an admissions decision that is more holistic in nature, and informed by more personal experience than is often possible in a traditional admissions process. Indeed, fostering individual mentoring relationships between Fisk students and Vanderbilt faculty is at the very heart of the Bridge program, and is a key metric by which its success is evaluated. To this end, the Bridge program includes the following key elements:

- A. Students admitted to the Bridge program receive full financial support in an amount that is standard for full-time graduate research assistants at Fisk University. Funding is provided through a combination of institutional support and extramural support.
- B. Upon admission to the Bridge program, the student will have a secondary Vanderbilt advisor (typically, that assignment is: for Biology, Donna Webb; for Chemistry and Materials Science, David Cliffler; for Physics, David Ernst; for Astronomy, Keivan Stassun). The role of the secondary advisor is to serve as a liaison for bridging to the PhD programs at Vanderbilt, and provide insights into the Vanderbilt policies and procedures.
- C. Students in the Bridge program will be eligible to: cross-register for Vanderbilt courses; receive a discounted Vanderbilt parking permit; receive a Vanderbilt email account; access Vanderbilt library facilities; and receive a city bus pass for transportation to and from Fisk. Please note, however, that when a Bridge student takes a Vanderbilt course during their Master's phase and earns a B- in that course, the credit can be applied to their MA work but it will not transfer for credit at the PhD level. Only a B or above can transfer toward PhD program didactic course credit.
- D. For the *Chemistry track* in the Bridge program, students will be expected to participate in at least one research rotation in a Vanderbilt chemistry lab during one of the standard three rotation periods: (1) 1<sup>st</sup> Half of the Fall Semester, (2) 2<sup>nd</sup> Half of the Fall Semester, (3) 1<sup>st</sup> Half of the Spring Semester. The rotation counts as a regular course [Vanderbilt Chemistry 380- 1 credit hour per rotation]. The Vanderbilt Chemistry PhD program requires 3 credit hours of research rotations to be earned. At least 1 rotation must be completed by Bridge students *prior* to applying to the Vanderbilt PhD program in Chemistry.

### **IV. Admission to the Vanderbilt PhD program for Fisk-Vanderbilt Bridge Students**

**Bridge students are not automatically guaranteed admission to Vanderbilt. The expectation is that a Bridge student who has satisfied the requirements in this document will receive consideration by the Vanderbilt admissions committee as having demonstrated strong potential for success in the Vanderbilt program.** Admission to the Vanderbilt PhD program will be decided by the standard admissions procedures of the Vanderbilt graduate program in chemistry. The policy of Vanderbilt's graduate programs is to admit students for whom *the total of the evidence* strongly indicates that the student is capable of completing the PhD degree. All students in the Vanderbilt PhD program receive financial support, in the form of Teaching Assistant and/or Research Assistant support, for a minimum of four years.

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Requirements for admission to the Vanderbilt PhD program through the Bridge Program are:

- A. Complete the requirements for the Fisk MA degree. Admission can be offered contingent upon the student completing the Fisk degree.
- B. Students **must maintain a minimum 3.0 GPA overall, and must achieve A or B grades in the “core” courses (see course grid for each of the programs, below)**. Core courses must be taken either at Vanderbilt or their approved equivalents taken at Fisk; Vanderbilt courses and their Fisk equivalents will be counted as satisfying the core requirements at Vanderbilt (provided the above minimum grades are achieved).
- C. Have already taken at least one core course at Vanderbilt during the Master’s phase of the program. Additional courses at Vanderbilt are highly recommended. As noted above, the student must receive at least a B grade in each core course taken at Vanderbilt for that course to count toward PhD graduate program credit upon transition to the PhD program.
- D. Meet for an interview on/or around December 15 in the second year of the MA program at Fisk with the Director of Graduate Recruiting of the Vanderbilt PhD program in the Bridge program of interest, i.e. Biology, Chemistry, Physics, Materials Science, or Astronomy. The purpose of the interview is for the Director of the relevant PhD Bridge Program to meet the student, to learn from the Bridge Program steering committee whether the student has satisfactorily completed the admission requirements, and to learn the student’s research interests in order to effectively advance the student’s application in the deliberations of the Graduate Admissions Committee.
- E. **Complete the Vanderbilt application for the relevant PhD program by the January deadline of the year for which Fall admission is being sought.** Applications for admission to Vanderbilt other than for the Fall semester are discouraged as a vast majority of financial support is on a yearly cycle that starts with the Fall semester. Links to all application forms are available from the Bridge program website (<http://www.vanderbilt.edu/gradschool/bridge>).
- F. **A minimum of three letters of recommendation:** one from the student’s Fisk advisor, one from the student’s Vanderbilt advisor, and one from a Vanderbilt faculty member who has taught the student a course (in some cases a faculty member may satisfy more than one of the above criteria). More than three letters are encouraged.

**Note:** While a Fisk student, all of the student's academic and financial matters will be handled through Fisk University, and while a Vanderbilt student, all the student’s academic and financial matters will be handled through Vanderbilt University.

### **Administrative Contacts for the Fisk-Vanderbilt Master’s to PhD Graduate Program:**

#### **Co-Directors:**

**Kelly Holley-Bockelmann, PhD**  
Associate Professor of Physics and Astronomy  
Vanderbilt University  
[k.holley@vanderbilt.edu](mailto:k.holley@vanderbilt.edu)

**Arnold Burger, PhD**  
Professor of Physics  
Fisk University  
[aburger@fisk.edu](mailto:aburger@fisk.edu)

**Executive Director**  
**Dina Myers Stroud, PhD**  
[dstroud@fisk.edu](mailto:dstroud@fisk.edu); [dinamyersstroud@gmail.com](mailto:dinamyersstroud@gmail.com)

**Section II: The Master's in Biology at Fisk University *and* The Fisk-Vanderbilt Masters-to-PhD Bridge Program in Biological and Biomedical Sciences**

**Director of Graduate Studies for the M.A. in Biology**  
**Brian Nelms, PhD**  
Assistant Professor of Biology  
Department of Life and Physical Sciences  
Office: Hughes-Kellogg Research Building  
Email: [bnelms@fisk.edu](mailto:bnelms@fisk.edu)  
Phone: 329-8625

**Fisk-Vanderbilt Masters-to-PhD Bridge Program in Biology**

**Fisk Scientific Director**  
**Brian Nelms, PhD**  
Assistant Professor of Biology  
Department of Life and Physical Sciences  
Office: Hughes-Kellogg Research Building  
Email: [bnelms@fisk.edu](mailto:bnelms@fisk.edu)  
Phone: 329-8625

**Assistant: Marian Burns**  
Office: 206 DuBois Hall  
Email: [mburns@fisk.edu](mailto:mburns@fisk.edu)  
Phone: 329- 8664

**Facilitating transition to Vanderbilt**  
(in conjunction with relevant discipline-based faculty at Fisk and Vanderbilt ):

*Into the Biological Sciences Program:*

**Donna Webb, PhD**  
Associate Professor  
Biological Sciences  
[Donna.webb@vanderbilt.edu](mailto:Donna.webb@vanderbilt.edu)

*Into all bio-centric programs, including biomedical research training programs:*

**Dina Myers Stroud, PhD**  
Fisk-Vanderbilt Master's-to-PhD Bridge Program Executive Director  
[Dina.Stroud@vanderbilt.edu](mailto:Dina.Stroud@vanderbilt.edu)  
[dstroud@fisk.edu](mailto:dstroud@fisk.edu)

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### **The Biology Graduate Program at Fisk University**

#### **Program Overview:**

The Biology M.A. Program at Fisk University is focused on preparing students for PhD level training in the biological and biomedical sciences or advancing their skills for careers in the sciences.

Students who complete the M.A. program in biology will be able to:

1. independently search the literature to become aware of advances in subject matter;
2. develop independent research questions in the research area of their thesis advisor
3. develop skills to test, interpret and critically analyze data presented in the literature and obtained the laboratory; and
4. communicate science effectively and prepare manuscripts for publication in relevant journals.

The student and advisor will develop a specifically tailored plan including courses and other graduation requirements during the first semester of enrollment. Full-time graduate students are expected to complete their course work by the end of their third semester in the program.

Required course work includes a minimum of 30 semester credits, which includes up to 6 credits for thesis research. At least 14 of the required 30 semester credits must be completed at Fisk. A maximum of 13 semester credits may be taken in cross-registration at Vanderbilt University; cross registration at institutions other than Fisk must be approved by the thesis advisor and the Director of Graduate Studies in Biology and should be selected to align with the research interests and anticipated research of the student.

The balance sheet below, to be completed by all graduate students as they progress through their time within the program, and to be shared by the student at every committee meeting, summarizes the requirements of the Graduate Program in Biology.

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SEMESTER GRADUATE PROGRAM IN BIOLOGY - BALANCE SHEET						
Fall of First Year (≥9 credits)	Fisk Courses - Title	Cr	Grade	Vanderbilt Courses - Title	Cr	Grade
	Professional Skills for Grad Success	1		(Recommend none 1st semester)		
	BIOL500/500L: Molecular Methods	4				
	BIOL560: Molecular Cell Biology	3				
	BIOL581: Ind. Research/Spec.Topics	2				
	BIOL590: Journal Club	0				
	Other requirements					Completed
Choose Research Mentor (as early as possible in the first semester)						
Formulate Research Project and Plan with Research Mentor						
Identify Labs of Interest for Bridging to Vanderbilt (by end of first semester)						
Spring of First Year (≥9 credits)	Fisk Courses – Title	Cr	Grade	Vanderbilt Courses - Title	Cr	Grade
	BIOL540/540L: Dev. Bio. and Lab	4		(1 recommended)	2-4	
	BIOL582: Ind.Research/Spec.Topics	2				
	BIOL590: Journal Club	0				
	BIOL594: Literature Review	1				
	Other requirements					Completed
	Form Thesis Committee (can be done in Fall of First Year if possible)					
Hold First Thesis Committee Meeting						
With Mentor, Submit Summary of Thesis Committee Meeting						
Summer of First Year (6 credits)	Fisk Courses – Title	Cr	Grade	Vanderbilt Courses - Title	Cr	Grade
	BIOL599: Thesis Prep	6		(typically reserved for research)		
	Other Requirements					Completed
	Meet with Thesis Committee, Submit Summary (usually toward end of summer)					
Fall of Second Year (≥9 credits)	Fisk Courses – Title	Cr	Grade	Vanderbilt Courses -Title	Cr	Grade
	BIOL590: Journal Club	0		(usually 1-2 as desired/needed)	0-8	
	BIOL591: Thesis Research	1-6				
	Other Requirements					Completed
	Meet with Thesis Committee, Submit Summary					
Spring of Second Year (≥9 credits)	Fisk Courses – Title	Cr	Grade	Vanderbilt Courses - Title	Cr	Grade
	BIOL590: Journal Club	0		(if desired/needed)		
	BIOL592: Thesis Research	1-6				
	BIOL599: Thesis Prep	0-9				
	MAYMESTER IGP Preview Course	3				
Other Requirements					Completed	
Complete outline of thesis document for thesis committee approval by February 15th						
Meet with Thesis Committee, CHOOSE DEFENSE DATE, submit Summary						
Summer of Second Year (6 credits)	Fisk Courses – Title	Cr	Grade	Vanderbilt Courses - Title	Cr	Grade
	BIOL599: Thesis Prep	6				
	Other Requirements					Completed
	Finalize thesis, turn in to committee two weeks before defense					
	Defend Thesis and make suggested changes to thesis document					
Print three copies of thesis on bond paper, turn in thesis to library						
OVERALL REQUIREMENTS	Requirement:			NOTES		
	At least 30 credits total (non-Thesis Prep)					
	At least 24 didactic credits					
	At least 14 credits at Fisk					
	Up to 6 credits of Thesis Research					
	GPA above 3.0					
Library Receipt for Thesis						

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### **Graduate Courses in Biology currently offered at Fisk:**

In addition to the courses listed further below, the following non-credit offerings are required for all graduate students in Biology:

Professional Skills for Graduate School Success, Fall Semester, First Year [1Cr.].

BIOL 590, Biology Journal Club: Students will be expected to attend this Journal Club regularly both years in the graduate program. During the SECOND YEAR, each student will present at least two journal articles in Journal Club each semester. [0] Credits

Substitutions for the courses below can certainly be made in consultation with the thesis advisor and the Director of Graduate Studies in the Biology track of the Graduate Program.

**BIOL 500, 500L, MOLECULAR METHODS, 4 credits – lecture and lab. Fall semester.** This course is designed to familiarize you with some of the key techniques used in molecular biology, with a focus on DNA and RNA. You will learn the theory behind HOW and WHY certain techniques work and will get hands-on experience in using and troubleshooting these techniques. You will learn and practice the concepts important for good experimental design and interpretation of results. The topics we will cover, within the framework of a larger project, will include PCR, rtPCR, recombinant DNA, transgenic and homologous recombination strategies, electrophoresis, ligations, transformation, DNA sequencing, immuno-staining, and several others. Some of the projects we will be working on will be slightly different for each student, and results will not already be known. This will require independent thinking and creative troubleshooting.

**BIOL 540, 540 L: ESSENTIAL DEVELOPMENTAL BIOLOGY, 4 credits – lecture and lab. Spring Semester.** This course will address the question of how single cells can go on to become the wonderfully complex people, plants, or animals we come into contact with every day, covering many of the essential processes and cellular machinations giving rise to diverse organ systems and cell types throughout the animal kingdom. We will introduce some of the model organisms used to study these processes, and use a multidisciplinary approach incorporating elements of cell biology, molecular biology, and genetics. Discussions will also touch on how an understanding of the processes that occur during embryonic development can inform everything from our ideas about fighting cancer to our theories on evolution.

**BIOL 560: MOLECULAR CELL BIOLOGY, 3 Credits. Fall Semester.** An introduction to the molecular compartments of the cell, and the molecular features and mechanisms of the proteins, carbohydrates, and nucleic acids that ‘inhabit’ those compartments, including trafficking from one compartment to another. Taught with an emphasis on how critical conclusions about cellular functions were established experimentally. Course taken with upper level undergraduates (BIOL 360), who also participate in a three hour laboratory each week. Instead, graduate students are given a special assignment that mimics a brief research proposal addressing a current hypothesis in molecular cell biology.

**BIOL 581 AND 582, SPECIAL TOPICS IN BIOLOGY, 2 credits each semester.** This course will be offered for first-year graduate students to provide training in literature searches,

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planning, and conducting independent research. Each student will be assigned a small project that is expected to be completed by the end of the second semester. A detailed report in the form of a manuscript will be required.

**BIOL 590, GRADUATE BIOLOGY JOURNAL CLUB, 0 credit.** Primary literature articles relevant to the students' chosen research areas will be presented, analyzed, and discussed by participating faculty and students. Students will be expected to attend this Journal Club regularly both years in the graduate program [0 Credits]. During the SECOND YEAR, each student will present at least two journal articles in Journal Club each semester.

**BIOL591, 592 THESIS RESEARCH, variable credits (1-3 credits).** Individual research will be conducted by students. This is a requirement for M.A. degree candidates in biology. Only up to six (6) credits of Thesis Research can be counted towards the 30 credits required for graduation.

**BIOL594: LITERATURE REVIEW, 1 credit.** This semester, the focus will be on learning how to read the literature and use an electronic bibliography as well as access all eLibrary resources available to students. Each student will prepare a Review Article on the Student's anticipated area of research. This review article, which may be publishable, will also serve as a strong beginning for the student's thesis proposal and the Literature Review section of their MA thesis. This one hour course offers the one credit hour previously obtained for four semesters of participation in Journal Club.

**BIOL 599, THESIS PREPARATION, these credits do not count for graduation.** Offered for students who have completed all course requirements but have not submitted an approved thesis.

**Vanderbilt Courses available to Fisk Biology MA Program Trainees:** Terminal Master's students are encouraged to enroll in some of the Vanderbilt courses identified below to fulfill their academic interests and degree requirements. Bridge students will be expected to take *at least two* courses at Vanderbilt during the MA phase of their program.

It is imperative that students review off-campus courses with their advisor to select appropriate courses. Furthermore, the student and their advisor should contact the instructor to determine whether the student's background has adequately prepared them for enrollment in a particular course. Below is a sample listing of some courses available in Vanderbilt's Department of Cell and Developmental Biology and Department of Biological Sciences. These were chosen because they are those most relevant to current areas of research at Fisk, but there are many other departments with many additional course offerings. It will be best to work with your mentor and the Program Leadership to identify courses of interest and stay up-to-date on currently offered courses (many graduate courses are subject to change as new areas of research develop).

**CBIO 312. Introduction to Developmental Biology.** This combined lecture and laboratory course will present students with the basics in the analysis of standard animal models used in modern developmental biology. SUMMER [3 credits]

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**CBIO 313. Introduction to Modern Biological Microscopy.** This lecture course will provide students an introduction to modern microscopy and its biological applications. SPRING [2 credits]

**CBIO 314. Basic Biological Microscopy.** This lecture course will present students with an introduction to microscopy and its applications to biology. SPRING [1 credit]

**CBIO 320. Cancer and Development. A cross-listed CDB/CB graduate-level course that will examine relationships between cellular responses in normal tissue development and cancer. Offered every other year.** SPRING [3 credits]

**CBIO 330. Seminar in Cell and Developmental Biology.** The goal of the course is for graduate students to learn about two cutting-edge areas of research in cell and developmental biology. FALL, SPRING [1 credit]

**CBIO 331. Current Topics in Developmental Biology (Journal Club).** Meets once per week to hear a graduate student, postdoctoral fellow, or faculty member discuss a research paper from outside his or her field of research, followed by an audience Q&A session. FALL, SPRING [1 credit]

**CBIO 341. Molecular Developmental Biology.** This course comprises three cutting-edge areas of developmental biology per year. Offered every other year. SPRING. [Variable credit: 1–3]

**CBIO 345/NURO 345. Fundamentals of Neuroscience I: Cellular and Molecular Neuroscience.** (Also listed as Molecular Physiology and Biophysics 345, Pharmacology 345) Goal is to expose students to fundamental concepts and techniques in molecular and cellular neuroscience and provide a theoretical context for experimental analysis of brain function and disease. Course combines faculty lecture with discussion of original articles with an emphasis on fundamental concepts and the elucidation of important research paradigms in the discipline. SPRING. [4 credits]

**NURO 340. Fundamentals of Neuroscience II: Systems Neuroscience.** Goal is for students to learn the general organization of the nervous system and its circuitry. Students learn how the cellular systems in the brain relate to the major branches of cognitive neuroscience. There are 3 themes that will be woven into the course to provide a continuum from molecules to cognition and disease: sensory systems, motor systems and memory. Course combines faculty lecture with discussion of original articles with an emphasis on fundamental concepts and the elucidation of important research paradigms in the discipline. FALL. [4 credits]

**CBIO 349. Genetics of Model Organisms.** (Also listed as Human Genetics 349, Molecular Physiology and Biophysics 349) Basic genetic principles across a broad range of organisms (yeast, *C. elegans*, *Drosophila melanogaster*, plants, mouse, zebrafish). SPRING. [3 credits]

**BSCI 266. Advanced Molecular Genetics.** Advanced Molecular Genetics is an undergraduate course with an upper level composition appropriate for graduate trainees. Genetics as an experimental approach is emphasized, while the commonalities, strengths and weaknesses of

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major model organisms (including peas, bacteria, yeast, flies, worms, and mice), are studied in the context of the historical foundations of modern genetics. [3credits]

**BSCI 243. Genetics of Disease.** Application of genetics, cell biology, and molecular biology to the study of human diseases. Genomics, gene mapping, and molecular techniques. Animal models of disease. Chromosomal abnormalities, single-gene and multifactorial diseases, and epigenetics. [3 credits]

**BSCI 341. Focal Topics in Molecular Biology.** In-depth analysis of three to four research areas in molecular and cell biology taught by experts in each subdiscipline through lectures and discussions of papers from the current literature. Prerequisite: IGP 300a or permission of instructor. [3 credits]

**BMIF 310. Foundations of Bioinformatics.** This survey course introduces students to the experimental context and implementation of key algorithms in bioinformatics. The class begins with a review of basic biochemistry and molecular biology. The group will then focus on algorithms for matching and aligning biological sequences, given the context of molecular evolution. The class will also examine biological networks, including genetic regulatory networks, gene ontologies, and data integration. Formal training in software development is helpful but not required. FALL. [3 credits]

Bioregulation II Series: Another option is to enroll (with prior approval of your advisor and the instructor of the course) for modules offered by the Vanderbilt Interdisciplinary Graduate Program as part of their Bioregulation II series (IGP300B).

Reminder: more courses are offered in other departments and graduate programs at Vanderbilt University that may match a student's particular research area.

**Fisk-Vanderbilt Masters-to-PhD Bridge Program in Biological and Biomedical Sciences**

**Matriculation into the PhD phase of the Bridge Program and Formal Course Work:**

The Fisk-Vanderbilt Masters-to-PhD program in Biology bridges from an MA in Biology at Fisk University to a broad array of possible PhD-granting programs. Most biology students will be admitted to Vanderbilt through the Interdisciplinary Graduate Program; students who enter directly into the Biological sciences program also will be taking the Interdisciplinary Graduate Program (IGP) course, a fast-paced introduction to the breadth of content in the IGP course. A “Preview” of the IGP course will be given each MAY in the context of MAYMESTER courses by Dr. Lee E Limbird, Dean for Graduate Studies. (3 hours of credit, if taken for credit). This course is **required** for students funded by the NIH R25 grant entitled “Bridge to Biomedical Sciences”; however, this course is highly recommended for *all* students who will be taking the IGP Fall course as they transition to the PhD program at Vanderbilt. After their FALL semester in the IGP introductory program, students identify a PhD mentor, if this was not already established during the MA phase, and become aligned with one of multiple possible graduate programs: biological sciences, biochemistry; chemical biology, cell and developmental biology; microbiology and immunology; molecular physiology and biophysics; physical and structural biology; neuroscience; pathology; and/or pharmacology.

***Matriculation into the Biological Sciences PhD Program:*** Students can apply directly to the Biological Sciences Department and enter in their first year or after spending their first year in the IGP. Most students will complete three research rotations (nine week periods) in their first year to facilitate choosing a dissertation advisor and as part of the required didactic course work (BSCI 390). At least two rotations are required for all students.

Specific questions about each of the available PhD-granting programs for those completing their MA in Biology as part of the Fisk-Vanderbilt Bridge program are optimally answered by the Directors of Graduate Studies for those programs (see [www.vanderbilt.edu](http://www.vanderbilt.edu)) and these conversations can be facilitated by Dina Myers Stroud, PhD., Executive Director of the Bridge program.

**Section III: The Masters in Chemistry at Fisk University *and* The Fisk-Vanderbilt Master's-to-PhD Bridge Program in Chemistry**

**The MA in Chemistry at Fisk University**

**Director of Graduate Studies for the MA in Chemistry**

**Natalie Arnett, PhD**

**Associate Professor of Chemistry**

**Fisk University**

**[narnett@fisk.edu](mailto:narnett@fisk.edu)**

**Office: Room 213**

**Talley Brady Hall**

**Phone: 329- 8780**

**The Fisk-Vanderbilt Masters-to-PhD Bridge Program**

**FISK Contact:**

**Scientific Director for Chemistry Bridge Component**

**Natalie Arnett, PhD**

**Associate Professor of Chemistry**

**Fisk University**

**Email: [narnett@fisk.edu](mailto:narnett@fisk.edu)**

**Office: Room 213**

**Talley Brady**

**Phone: 329- 8780**

**Facilitating transition to Vanderbilt (in conjunction with relevant discipline-based faculty):**

**Fisk-Vanderbilt Master's-to-PhD Executive Director**

**Dina Myers Stroud, PhD**

**[Dina.Stroud@vanderbilt.edu](mailto:Dina.Stroud@vanderbilt.edu)**

**[dstroud@fisk.edu](mailto:dstroud@fisk.edu)**

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### **Admissions Criteria for the MA in Chemistry-**

Admission to the Fisk University MA in Chemistry Graduate Program is open to persons who have graduated from an accredited college and earned a B.A. or B.S. degree in chemistry or in a related field. Students should have a chemistry background equivalent to 25 hours of undergraduate coursework.

When students lack a background perceived to be adequate in chemistry, they may be admitted conditionally and required to take certain undergraduate courses before formally entering the Master of Arts program.

### **Acceptance of Transfer Credit in the Graduate Program**

Transfer of Credits follows the general rules provided in Section I of this Handbook.

### **Graduation Requirements for the MA in Chemistry**

A minimum total 30 semester hours of graduate credit is required. At least 21 semester hours must be in chemistry courses. Courses in chemistry-related fields must be recommended by the student's thesis advisor and be approved by the Director of Graduate studies and should be relevant to the research program of the student.

An overall GPA of 3.0 must be maintained.

### **Course Requirements for the MA in Chemistry**

Completion of at least 30 semester hours of coursework is required. This coursework should include at least 6 hours, and no more than 9 hours, of chemistry research and at least 21-24 hours in courses intended principally for graduate students (numbered 500 or above).

A Chemistry Graduate Student Checklist and Balance Sheet is provided at the end of this section to assist students in tracking their coursework and other required elements of the Chemistry Graduate Program.

Students must identify their research advisor for their Master's work by the end of the first Fall Semester of Graduate School, although that selection often is made before a trainee matriculates in the graduate program at Fisk University. In consultation with this research advisor, and approval of the Director of Graduate Studies in Chemistry, a graduate student will choose a minimum of four graduate lecture courses (other than the above mentioned courses) from at least two of five different areas (Analytical Chemistry, Biochemistry, Inorganic Chemistry, Organic Chemistry and Physical Chemistry). Selection of remaining courses to complete the 30 hours required will take into consideration requirements to supplement research efforts and/or courses required for specialized study.

It is expected that students will earn a grade of "B" in each class, but a minimum grade of "C" may be earned in any one course. An "A" in another lecture course will be required to offset the "C" grade. Students may only balance two C grades with an A grade, and those courses must be didactic courses, not thesis research or Research Colloquium hours.

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### **Research Mentor/ Primary Advisor**

The research mentor should be selected no later than the latter part of the Fall semester of the first year. This person also serves as the student's primary advisor within the program. When the approved research mentor is a member of another department or at another school, the student will choose a Fisk Chemistry faculty member to serve as the chemistry primary advisor. The chemistry primary advisor provides guidance in choosing courses and adhering to chemistry regulations. This Chemistry primary advisor will work closely with the research mentor and is a part of the Master's advisory committee serving the graduate student.

Occasionally, student interests are best met by faculty at partnering institutions, such as Vanderbilt University. In this case, students should meet with the Director of Graduate Studies in Chemistry, or the Dean of Graduate Studies, to identify other faculty with whom the student may wish to discuss possible MA research opportunities. The selection of a research mentor outside of the Fisk Chemistry faculty must be approved both by the Director of Graduate Studies in Chemistry and the Dean of the Graduate School.

The faculty member agreeing to serve in the capacity as research mentor has the responsibility of approving a research topic that is feasible to complete within the confines of a normal MA student tenure. This person will give advice relative to methodologies and approaches to solving the problem assigned and will meet regularly with the graduate student to monitor progress.

Failure to actively participate in a research group is grounds for loss of funding and/or dismissal from the program. Students who wish to change research mentors must do so with the approval of the Director of Graduate Studies of the Chemistry Program and of the Dean of the Graduate School.

### **Thesis Advisory Committee**

A thesis committee should be chosen early in the Spring semester of the first year in the graduate program. The committee should contain at least three members, one of whom is the thesis supervisor, and not more than five members total. All members of the thesis advisory committee should have the status or qualifications for a graduate faculty member at Fisk University. An approved faculty advisor from another department or school may serve on the advisory committee. For students in the Fisk-Vanderbilt Masters-to-PhD graduate program, the thesis advisory committee *must* include a member of the Chemistry faculty at Vanderbilt. Please note that the thesis supervisor/mentor must approve the Committee selection before faculty invitations are made.

Once the advisory committee is organized, it should meet *at least* once a semester in the Spring and Summer of the first year to monitor and enhance the research progress of the graduate student. During the second year, students in the Chemistry program must gather the committee members *once* a semester. **It is the responsibility of the student to assure that these meetings occur !!**

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The role of the Committee is to offer constructive suggestions to improve research progress, identify relevant literature, or make liaisons necessary to assure research productivity. If more frequent and regular meetings are necessary, they should be undertaken.

### **Publications and Presentations**

It is desired that prior to the thesis defense at least one manuscript based on the student's research would have been submitted to a peer-reviewed journal. The student's contribution must be substantial to both the scientific content and the drafting of the manuscript. It is expected that prior to the thesis defense, the student would attend and present research results at one or more national meetings.

### **Thesis**

A written thesis describing the research program is submitted a minimum of 14 days before the oral defense.

Guidelines for the finished product are provided in **Appendix A**. It is expected that an *outline* of the thesis is provided to the committee by December of a student's second year, as a prelude to submitting drafts. The graduate student should submit the document electronically, and expect to consider several revisions. The document cannot be submitted to the advisory committee until there is approval by the research mentor. Each member of the advisory committee can then request further changes which must be executed; these comments and recommendations from the Committee are most expeditiously made using the TRACK CHANGES mode of review in Word.

Because the process of thesis approval can be very lengthy, graduate students should build this process into their time line for expected completion.

### **Oral Defense**

An oral defense of research work is required. The defense consists of a one-hour (approximately) seminar on the thesis project followed by an oral examination with the Thesis Advisory Committee, department faculty, and invited guest examiners. This defense must occur at least ten days before all materials for graduation are required (see Section I).

A mandatory practice oral exam will be given at least one week prior to the scheduled public oral defense. This exam will be conducted with the thesis advisor and any other faculty the advisor suggests.

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### **Courses Offered at Fisk University:**

The specific courses offered each semester are listed in the course schedule that is published by the registrar's office one semester in advance to the actual offering.

**CHEM 501/502 CHEMICAL COLLOQUIUM- 0.5 Credits per semester.** Trainees will present primary literature and frequent research updates as well as summaries of literature relevant to their thesis work.

**CHEM 516, ADVANCED INORGANIC CHEMISTRY, 3 credits.** The interpretation of bonding and reactivity of inorganic compounds. Such topics as quantum mechanics and valence bond, molecular orbital, and ligand-field theories are included. Prerequisite: CHEM 316 or permission of instructor. **Vanderbilt equivalent: Chemistry 203 – Inorganic Chemistry**

**CHEM 520, ADVANCED ANALYTICAL CHEMISTRY, 3 credits.** The physico-chemical principles of analysis, including a rigorous treatment of the methods of separation; electrical and optical methods of analysis. Also treats selected topics on recent developments in analytical chemistry. Prerequisite: CHEM 470 or permission of instructor. **Vanderbilt equivalent Chemistry 211- Instrumental Analytical Chemistry**

**CHEM 535, ADVANCED ORGANIC CHEMISTRY, 3 credits.** This course provides comprehensive studies of compounds such as synthetic polymers, carbohydrates, amino acids, and peptides. Mechanisms are emphasized. Other topics may include the chemistry and alkylation of enolates and their application to general synthetic methods. Prerequisite: CHEM 234 or equivalent. **Vanderbilt equivalent: Chemistry 220 C**

**CHEM 538, REACTIONS OF ORGANIC COMPOUNDS, 3 credits.** This course places emphasis on the electronic structures, reaction mechanisms, and reaction kinetics of the reactions of organic compounds. **Vanderbilt equivalent: Chemistry 223**

**CHEM 547, MOLECULAR SPECTROSCOPY, 3 credits.** This course offers an introduction to infrared, electronic, Raman, and NMR spectra. Problems and laboratory techniques are included in the course. Prerequisites: CHEM 342 and MATH 130, or equivalents. **Vanderbilt equivalent: Chemistry 339 Spectroscopy**

**CHEM 545, ADVANCED PHYSICAL CHEMISTRY I, 3 credits.** This course reviews classical equilibrium thermodynamics. Applications are made to the study or solutions of macromolecules, phase transitions, etc. Statistical thermodynamics is introduced. Prerequisite: CHEM 342 or permission of instructor. **Vanderbilt equivalent: Chemistry 331 Statistic Thermodynamics**

### **Other Program Regulations:**

#### **Outside Work:**

As indicated in Section I, students receiving full-time funding from the University (graduate stipends, research fellowships, tuition waivers, government grants, etc.) *cannot work outside of the university*. The MA stipend funding comes with professional expectations of the graduate program in terms of courses, research, and TA requirements of the program.

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SEMESTER	<b>GRADUATE PROGRAM IN CHEMISTRY – Checklist</b>					
Fall of First Year (≥9 credits)	Fisk Courses - Title	Cr	Grade	Vanderbilt Courses - Title	Cr	Grade
	CHEM 501: Chemistry Colloquium	0.5		<b>CHEMISTRY students CANNOT take a Vanderbilt Course their first FALL at Vanderbilt for credit. HOWEVER, a preview of a Vanderbilt course CAN be arranged with a different FISK COURSE NUMBER to prepare Chemistry trainees for the accelerated pace of Vanderbilt graduate courses in Chemistry</b>		
	NSCI : Professional Skills for Graduate Study Success	1.0				
	FISK # ( CHEM, NSCI: )	3or 4				
	FISK # ( CHEM, NSCI: )- could be VU course preview	3or 4				
	CHEM 592: Thesis Research	1.5 or more				
	Other requirements				Completed	
	Choose Research Mentor (as early as possible in the first semester)					
	Formulate Research Project and Plan with Research Mentor					
	<b>Bridge Students:</b> Identify Labs of Interest for Bridging to Vanderbilt (by end of first semester)					
Spring of First Year (≥9 credits)	Fisk Courses – Title	Cr	Grade	Vanderbilt Courses - Title	Cr	Grade
	CHEM 502: Chemistry Colloquium	0.5				
	CHEM 592: Thesis Research	1-6			3-4	
	CHEM ____:	3				
	CHEM ____:	3				
	Other requirements				Completed	
	Form Thesis Committee (can be done in Fall of First Year if possible)					
	Hold First Thesis Committee Meeting					
With Mentor, Submit Summary of Thesis Committee Meeting						
Summer of First Year (6 credits)	Fisk Courses – Title	Cr	Grade	Vanderbilt Courses - Title	Cr	Grade
	CHEM 599: Thesis Prep	6		(typically reserved for research)		
	Other Requirements				Completed	
	Meet with Thesis Committee, Submit Summary (usually toward end of summer)					
Fall of Second Year (≥9 credits)	Fisk Courses – Title	Cr	Grade	Vanderbilt Courses -Title	Cr	Grade
	CHEM 501: Chemistry Colloquium	0.5			3-4	
	CHEM 592: Thesis Research	1-6				
	CHEM ____:	3-4				
	Other Requirements				Completed	
Meet with Thesis Committee, Submit Summary						
Spring of Second Year (≥9 credits)	Fisk Courses – Title	Cr	Grade	Vanderbilt Courses - Title	Cr	Grade
	CHEM 502: Chemistry Colloquium	0.5				
	CHEM 592: Thesis Research	1-6				
	CHEM 599: Thesis Preparation	6				
	Other Requirements				Completed	
Complete outline of thesis document for thesis committee approval by February 15th						
Meet with Thesis Committee, CHOOSE DEFENSE DATE, submit Summary						
Summer of Second Year (6 credits)	Fisk Courses – Title	Cr	Grade	Vanderbilt Courses - Title	Cr	Grade
	CHEM 599: Thesis Preparation	6		(typically reserved for research)		
	Other Requirements				Completed	
	Finalize thesis, turn in to committee two weeks before defense					
	Defend Thesis and make suggested changes to thesis document					
Print three copies of thesis on bond paper, turn in thesis to library						
OVERALL REQUIRE- MENTS	Requirement:			NOTES		
	At least 30 credits total (non-Thesis Prep)					
	At least 21-24 didactic credits					
	Up to 9 credits of Thesis Research					
	GPA above 3.0					
Library Receipt for Thesis						

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### The Fisk-Vanderbilt Master's-to-PhD Training Program in Chemistry:

In addition to the typical coursework for the Fisk University Master's degree, two Vanderbilt Courses are required (usually taken in the Spring of the 1<sup>st</sup> yr. and/or Fall of the 2<sup>nd</sup> yr.). These courses are based on the Vanderbilt University Chemistry theme areas. The checklist, above, takes these requirements into account. If a student takes two or more courses in the same theme area, one must include an asterisked course:

**(1) Analytical Chemistry**

Chemistry 311- Advanced Analytical Chemistry I  
Chemistry 312- Electrochemistry  
Chemistry 313 – Advanced Analytical Chemistry II  
Chemistry 314A- Special Topics in Analytical Chemistry  
Chemistry 315- Separations

**(2) Biochemistry/Chemical Biology**

Chemistry 224 – Bio-organic Chemistry\*  
Chemistry 226- Drug Design  
Biological Science 220- Biochemistry I  
Chemistry 324- Special Topics

**(3) Inorganic Chemistry**

Chemistry 203 Inorganic Chemistry\*  
Chemistry 350 Materials Chemistry  
IMS 320 Nanoscience

**(4) Organic Chemistry**

Chemistry 220C\*  
Chemistry 224  
Chemistry 223  
Chemistry 225 Spectroscopic Identification of Organic Compounds

**(5) Physical Chemistry**

Chemistry 338 Quantum Mechanics\*  
Chemistry 339 Statistical Mechanics  
IMS 320 Nanoscience

**Summary of Courses for the Fisk-Vanderbilt Master's-to-PhD Program with a Master's in Chemistry.** Master's trainees are expected to consult their research advisor and proactively discuss course plans with their thesis committee. First year graduate students are **NOT** allowed to register for Chemistry 220C, but are recommended to **AUDIT** the course during their first year under the auspices of a Fisk University Special Topics course number, and then take the Vanderbilt course for credit.

FIK MA COURSES	VANDERBILT PhD COURSES
<b>CORE:</b> Chemistry colloquium (CHEM 501/502) [2 cr]	Chemistry 301 Seminar (1 cr)
Professional Skills in Graduate Training Success [ 1Cr]	Chemistry 380 (1 cr)
<i>Select 4 courses below [12 cr] from at least two of the five areas: (1) Analytical Chemistry, (2) Biochemistry, (3) Inorganic Chemistry, (4) Organic Chemistry, (5) Physical Chemistry</i>	
Advanced Inorganic Chemistry (CHEM 516)	Inorganic Chemistry (CHEM 203)
Advanced Analytical Chemistry (CHEM 520)	Instrumental Analytical Chem (CHEM 211)
Structural Chemistry (CHEM 530)	
Advanced Organic Chemistry (CHEM 535)	Chemistry 220C
Reactions of Organic Compounds (CHEM 538)	Chemistry 223
Synthetic Organic Chemistry (CHEM 539)	
Advanced Physical Chemistry I (CHEM 545)	Chem 331 Statistical Thermodynamics
Advanced Physical Chemistry II (CHEM 546)	
Molecular Spectroscopy (CHEM 547)	Spectroscopy (CHEM 339)

**Section IV: The Master's in Physics at Fisk University and the Fisk-Vanderbilt Master's-to-PhD Bridge Program in Physics, Interdisciplinary Materials Science and Astrophysics tracks.**

**Master's in Physics: Fisk University**

**Contact:**

**Director of Graduate Studies: Physics**  
**Arnold Burger, PhD**  
**Professor of Physics**  
**Fisk University**  
**Email: [aburger@fisk.edu](mailto:aburger@fisk.edu)**  
**Office: Room 240, DuBois Hall**  
**Phone: 329- 8516**

**The Fisk-Vanderbilt Master's-to-PhD Bridge Program**

**FISK Contacts:**

**a) For Physics and Interdisciplinary Materials Science Tracks:**

**Arnold Burger, PhD (see info above)**  
**Email: [aburger@fisk.edu](mailto:aburger@fisk.edu)**

**b) For Astrophysics Track:**

**Kelly Holley-Bockelmann, PhD**  
**Associate Professor of Physics and Astronomy**  
**Vanderbilt University**  
**Email: [Jocelyn.k.holley-Bockelmann@vanderbilt.edu](mailto:Jocelyn.k.holley-Bockelmann@vanderbilt.edu); [kelly.gravity@gmail.com](mailto:kelly.gravity@gmail.com)**

**Facilitating transition to Vanderbilt (in conjunction with relevant discipline-based faculty):**

**Dina Myers Stroud, PhD**

**Fisk-Vanderbilt Master's-to-PhD Executive Director**

**[Dina.Stroud@vanderbilt.edu](mailto:Dina.Stroud@vanderbilt.edu)**

**[dstroud@fisk.edu](mailto:dstroud@fisk.edu)**

**VANDERBILT Contacts for the Various Tracks from the Master's in Physics program:**

**Scientific Director for the Astronomy Track :**

**Kelly Holley-Bockelmann, PhD ( above)**

**Vanderbilt University: [Jocelyn.k.holley-Bockelmann@vanderbilt.edu](mailto:Jocelyn.k.holley-Bockelmann@vanderbilt.edu);**  
**[kelly.gravity@gmail.com](mailto:kelly.gravity@gmail.com); [k.holley@vanderbilt.edu](mailto:k.holley@vanderbilt.edu)**

**Scientific Director for the Materials Science Track in the Bridge Program:**

**David Cliffl, PhD**

**Professor of Chemistry**

**Email: [d.cliffel@vanderbilt.edu](mailto:d.cliffel@vanderbilt.edu)**

**Scientific Director for Physics PhD Bridge Track in the Bridge Program:**

**David Ernst, PhD**

**Professor of Physics**

**Email: [david.j.ernst@vanderbilt.edu](mailto:david.j.ernst@vanderbilt.edu)**

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**The Fisk University Graduate Program in Physics and in Materials Science**

**Overview and Learning Outcomes:** The MA program in Physics at Fisk University seeks to prepare its students to be successful in any area requiring knowledge of advanced physics. Student preparation includes a variety of experiences, all of which are aimed at creating well-rounded critical thinkers. The program is built on a combination of formal course work, laboratory training and active graduate-level research.

The program's goal is to provide research activities and courses in physics and related areas to allow graduate students to be able to successfully enter Ph.D. programs or careers in the sciences.

Students who complete the M.A. program in physics will:

1. Be able to demonstrate scholarship in the three fundamental areas of physics (classical mechanics, electrodynamics, and quantum mechanics) orally as well as in writing;
2. Be able to do independent research, consistent with a Master's level of training;
3. Be able to present their own research at conferences and produce refereed journal publications.
4. Produce a quality Master's thesis containing publishable work; and
5. Be prepared to enter a Ph.D. program in Physics or Materials Science, or enter the workforce as a quality job candidate if they so choose.

**Pre-requisites for Admission**

Appropriate preparation for admission to the graduate program in physics includes completion of a minimum of 20 semester hours of prior study in physics, including courses equivalent to Fisk's PHYS 130 and 140, *University Physics I and II*; PHYS 231, *Introduction to Modern Physics*; PHYS 262, *Heat and Thermodynamics*; PHYS 341, *Intermediate Mechanics*; and PHYS 352, *Intermediate Electricity and Magnetism*. Advanced undergraduate courses in light and quantum mechanics are also recommended. A cumulative grade point average of at least 3.0 (on a four-point scale) is also expected.

Students who do not possess all of these qualifications may, upon consultation with the faculty, be required to complete the needed undergraduate courses as soon as possible. Such students usually require a longer time to graduate, and will be enrolled as a graduate in "conditional standing."

**Requirements for the MA degree in Physics at Fisk University**

Graduate students pursuing the MA degree in physics from Fisk University must complete the following core courses, in addition to electives relevant to the student's research:

- PHYS 541     *Advanced Dynamics*
- PHYS 542     *Non-Relativistic Quantum Mechanics*
- PHYS 552     *Electromagnetic Theory*

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### **Normal Progress for students in the Physics program (aligned with those outlined at the outset as a general policy for all MA students in programs in the Natural Sciences:**

Progress toward the master's degree normally occurs in the steps reviewed below:

- Students are expected to identify their research mentor/supervisor at the end of their first Fall semester in the graduate program
- Continuation in the graduate program beyond the first semester of residence is dependent upon satisfactory progress toward graduation. Criteria that the student should meet include:
  - Meeting any specified conditions that may have been imposed at the time of admission;
  - Minimum of a 3.0 cumulative grade point average in courses taken for credit toward the MA degree
- Students are expected to assemble their thesis committee early in the second semester of their first year, and be able to present a thesis proposal by the spring of their first year in the program.
- No later than the completion of one-half of the required credit hours for graduation, the student's total record is reviewed by the DGS and the thesis committee of the student and faculty of the program. If the student's record meets graduate school requirements, the thesis committee, as affirmed by the Director of Graduate Studies for Physics, admits the student to candidacy for the degree. A form is submitted to the Office for Graduate Studies that summarizes the thesis committee meeting where candidacy for the degree is approved ( See Appendices for forms)
- When the student satisfactorily completes the M.A. Thesis, the thesis committee for the student administers an oral examination based on the thesis and the area of knowledge it covers. Please note that this session, referred to as the GRADUATE STUDENT THESIS DEFENSE , cannot be scheduled until the text of the thesis is ENTIRELY complete, has been reviewed and *approved* by the thesis supervisor of the student, and distributed to each member of the thesis committee at least TWO WEEKS before this set defense date. STUDENTS CAN'T PROCEED to the thesis defense IF they are on academic probation due to coursework grades.
- The thesis may need additional editing based on input from the thesis committee. These edits MUST be made. The final thesis document will not be signed by the Thesis Committee Chair (usually the thesis research supervisor) until these changes are made. Once the library has received and approved the thesis document (including its format), a receipt is provided to the student. It is the student's responsibility that the thesis receipt is provided to the Office for Graduate Studies (206 DuBois), who will assure it gets to the Office of the Registrar.

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### Graduation Checklist [ Required by Registrar the semester before the student intends to graduate]

Content	Required	Completed
<b>Physics Didactic Courses</b> (including the three required PHYS courses: PHYS 541 <i>Advanced Dynamics</i> ; PHYS 542 <i>Non-Relativistic Quantum Mechanics</i> ; and PHYS 552 <i>Electromagnetic Theory ( or their VU equivalents)</i> )	<b>24</b>	
<b>Physics Research</b> <sup>†</sup>	<b>6</b>	
<b>Total Hours Required for Graduation</b>	<b>30</b>	
<b>Total Hours Completed</b>		
<b>Notes</b> 1. Physics Program Trainees can register for as many hours of Research as is appropriate to retain fulltime status, but ONLY 6 HOURS of RESEARCH credit can count toward the MA degree. Thus, to obtain the required 30 hours for the MA, 24 hours of didactic work must be completed.  Thesis Preparation (PHYS 598/599) ) should ONLY be taken during the last semester (Spring semester) of the student's final year; NO hours of Thesis Preparation count toward the 30 hour graduation		

### Physics Program Research Mentor Faculty

NAME & TITLE	PH. EXTENSION**	E-MAIL
Dr. Arnold Burger, Professor	8516	<a href="mailto:aburger@fisk.edu">aburger@fisk.edu</a>
Dr. W. Eugene Collins, Professor	8664	<a href="mailto:ecollins@fisk.edu">ecollins@fisk.edu</a>
Dr. Steven Morgan, Professor	8621	<a href="mailto:smorgan@fisk.edu">smorgan@fisk.edu</a>
Dr. Richard Mu, Professor	8507	<a href="mailto:rmu@fisk.edu">rmu@fisk.edu</a>

\*\*From off-campus dial: (615)-329-(+ four digit extension)

### ADJUNCT FACULTY to the PHYSICS (including Materials Science) GRADUATE Program

Dr. David Ernst, Vanderbilt University	<a href="mailto:david.j.ernst@vanderbilt.edu">david.j.ernst@vanderbilt.edu</a>
Dr. David Cliffler	<a href="mailto:d.cliffler@vanderbilt.edu">d.cliffler@vanderbilt.edu</a>

### ADJUNCT FACULTY to the ASTRONOMY Graduate Program, relevant to the Fisk-Vanderbilt Masters to PhD Bridge Program (only)

Dr. Keivan Stassun, Vanderbilt University	<a href="mailto:keivan.stassun@vanderbilt.edu">keivan.stassun@vanderbilt.edu</a>
Dr. Kelly Holley-Bockelmann	<a href="mailto:Jocelyn.k.holley-Bockelmann@vanderbilt.edu">Jocelyn.k.holley-Bockelmann@vanderbilt.edu</a> ; <a href="mailto:kelly.gravity@gmail.com">kelly.gravity@gmail.com</a>

## *Fisk Graduate Student Handbook for Fall 2015 Entrants*

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### **Graduate Physics Courses at Fisk University**

PHYS 501, ADVANCED MATHEMATICAL PHYSICS, 3 credits.

Mathematical methods of theoretical physics, including topics from intermediate and partial differential equations: Green's function, tensor analysis.

PHYS 541, ADVANCED DYNAMICS, 3 credits.

Variational methods, LaGrange's equations, Hamilton's equation, canonical transformation; Hamilton-Jacobi theory; classical perturbation theory.

PHYS 542, NONRELATIVISTIC QUANTUM MECHANICS, 3 credits.

Postulates of quantum mechanics and mathematical formalism; one-dimensional problems; the quantum mechanical harmonic oscillator; Heisenberg uncertainty relations; many-particle systems of bosons and fermions; symmetries in quantum mechanics; angular momentum and the hydrogen atom. *Please note: This is a one semester course taught at the graduate level; however, the material covered does not correspond entirely with the material taught in the first semester of the one year Quantum Mechanics course offered at Vanderbilt University or other institutions.*

PHYS 552, ELECTROMAGNETIC THEORY, 3 credits.

Classical electromagnetic field theory; interaction of electromagnetic radiation with matter; conformal mapping. *Please note: This is a one semester course taught at the graduate level; however, the material covered does not correspond entirely with the material taught in the first semester of the one year Quantum Mechanics course offered at Vanderbilt University or other institutions.*

PHYS 558, CRYSTAL GROWTH, 3 credits.

Theory and experimental techniques concerning the growth of single crystals. Will involve both lecture topics and laboratory work.

PHYS 559, MATERIALS CHARACTERIZATION, 3 credits.

This course is designed to acquaint the student with concepts and experimental techniques necessary to understand the mechanical, optical, electrical and thermal properties of materials as well as surface characterization techniques.

PHYS 581, Special Topics Independent Study (Experiment), 2-4 Credits

Review of the technology involved in current advances in experimental physics. Students perform an experiment using low temperatures, high vacuum, advanced digital electronics and/or lasers.

PHYS 582, TOPICS IN THEORETICAL PHYSICS, 2-4 credits.

Theoretical treatment of selected topics from molecular, solid state, nuclear and/or elementary particle physics. Includes a survey of current state-of-the-art research in each area.

PHYS 583 or 584, GRADUATE PHYSICS SEMINAR, 1 credit.

Survey of the current literature and developments in physics, special readings and papers.

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PHYS 591 or 592, RESEARCH IN PHYSICS, 3 credits.

Individual research work of an experimental or theoretical in nature on problems approved by the department. This research may be submitted for thesis requirements. Students must take at least three credits in RESEARCH IN PHYSICS and no more than 6 credits in Thesis Research

PHYS 599, Master's THESIS PREPARATION, not for credit.

For students who have completed all regular course requirements but have not submitted an approved thesis.

PHYS 699, Doctoral THESIS PREPARATION, not for credit.

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### **Fisk-Vanderbilt Masters-to-PhD Bridge Program in Physics:**

The Fisk-Vanderbilt Masters-to-PhD Bridge program is designed to allow Fisk Master's students transition into PhD programs in physics, astronomy or materials science at Vanderbilt. The program, which usually requires 2 years, is flexible and is individualized to the goals and needs of each student. Courses are selected to address gaps in undergraduate preparation, as are research experiences that allow students to develop and demonstrate their full scientific talent and potential. The program provides:

- ⤴ full access to courses at both Fisk and Vanderbilt, leading to the completion of most or all coursework required for the PhD;
- ⤴ research performed with Fisk and Vanderbilt faculty, leading to the selection of a PhD dissertation and PhD adviser(s);
- ⤴ a nurturing, friendly academic environment and a warm social network with other Bridge students, postdocs, and faculty; full funding support, tuition waiver, stipend, and health insurance;
- ⤴ fast-track admission process and evaluation to one of the participating Vanderbilt PhD programs, with full funding

### **Curriculum Guidelines for the Fisk-Vanderbilt Masters-to-PhD Program in Physics, Materials Science, or Astronomy**

Fisk MA courses <sup>1</sup>	Vanderbilt PhD courses <sup>2</sup>
<b>Physics Track</b>	
Mechanics/Dynamics (PHYS 541)	Mechanics/Dynamics (PHYS 305)
E&M (PHYS 552)	E&M I (PHYS 329A)
	E&M II (PHYS 329B)
Quantum Mechanics (PHYS 542)	Quantum Mechanics I (PHYS 330A)
	Quantum Mechanics II (PHYS 330B)
	Statistical Mechanics (PHYS 341)
	Graduate Seminar (PHYS 300)
<b>Interdisciplinary Materials Science Track</b>	
Mechanics/Dynamics (PHYS 541)	Atomic Arrangements of Solids (MSE 310)
E&M (PHYS 552)	Materials Chemistry (CHEM 350)
Quantum Mechanics (PHYS 542)	Thermodynamics (PHYS 223)
	Physics of Condensed Matter (PHYS 254)
<b>Astrophysics Track</b>	
Mechanics/Dynamics (PHYS 541)	Mechanics/Dynamics (PHYS 305)
E&M (PHYS 552)	E&M I (PHYS 329A)
Quantum Mechanics (PHYS 542)	Quantum Mechanics I (PHYS 330A)
	Statistical Mechanics (PHYS 341)
	Radiative Processes (ASTR 310)
	Stellar Astrophysics (ASTR 352)
	Order of Magnitude (ASTR 355)
	Graduate Seminar (PHYS 300)
Molecular Spectroscopy (CHEM 547)	Spectroscopy (CHEM 339)
Special Topics (PHYS 581; CHEM 581/582)	

Below we provide a checklist for students on the physics/materials science tracks, followed by a different checklist for students on the Astronomy track.

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### PHYSICS/MATERIALS SCIENCE GRADUATE CHECKLIST AND BALANCE SHEET

FIRST YEAR, FALL SEMESTER	CREDITS	SEMESTER TAKEN	GRADES
<b>PHYS XXX, selected based on undergraduate course background</b>	3		
<b>PHYS 501 Mathematical Methods</b>	3		
<b>PHYS 541 Advanced Dynamics</b>	3		
<b>PHYS 583 Graduate Physics Seminar (Journal Club)</b>	1		
<b>Professional Skills for Grad Study Success</b>	1		
<b>Total Credits Earned in semester</b>	<b>11</b>		
<b><i>Choose Faculty Research Mentor</i></b>			
Faculty Name:	Faculty Signature	Date	
<b>FIRST YEAR, SPRING SEMESTER</b>			
<b>VU 329A-Electrodynamics I at Vanderbilt (based on performance in Fisk-prepared pretest) OR Fisk PHYS 552 E&amp;M</b>	3		
<b>VU 330A- Quantum Mechanics I at VU (based on performance in Fisk-prepared pretest) OR Fisk PHYS 542 Nonrelativistic Quantum Mechanics</b>	3		
<b>Fisk PHYS 592 Research</b>	3		
PHYS 584 Graduate Physics Seminar (Journal Club)	1		
<b>Total Credits Earned in semester</b>	<b>10</b>		
Cumulative Credits Earned that can count toward graduation	20		
<b><i>Establish Advisory Committee</i></b>			
Faculty Name:	Faculty Signature:	Date:	
Faculty Name:	Faculty Signature:	Date:	
Faculty Name:	Faculty Signature:	Date:	
<b><i>Have first meeting of Advisory Committee</i></b>			
		Date:	
<b>FIRST YEAR, SUMMER</b>			
<b>PHYS 591/2 Research</b>	6		
<b>Total Credits Earned</b>	6 [ only 3 of these count toward graduation requirement hours]		
Cumulative Credits Earned that can count toward graduation	23		

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<b>SECOND YEAR, FALL SEMESTER</b>			
<b>VU Physics 329a: Electrodynamics I, OR VU Physics 330a: Quantum Mechanics I, OR VU Physics 305 Classical Mechanics , OR VU Physics 341: Statistical Mechanics</b>	3		
<b>Fisk PHYS Electives ( Fisk 400 and 500 series) as recommended by advisor, OR Fisk PHYS 581, Special Topics</b>	3		
<b>PHYS 583 Graduate Physics Seminar (Journal Club, encouraged but not required)</b>	0		
<b>PHYS 591 Research</b>	3.0[these three do not count toward 30 hours required for graduation ]		
<b>Total Credits Earned in semester</b>	<b>9</b>		
<b>Cumulative Credits Earned that can count toward graduation</b>	<b>29</b>		
<i>Have Fall meeting of Advisory Committee</i>		Date:	
<b>SECOND YEAR, SPRING SEMESTER</b>			
<b>Fisk PHYS Electives ( Fisk 400 and 500 series) as recommended by advisor, OR Fisk PHYS 581, Special Topics</b>	3		
<b>PHYS 599 Thesis Preparation</b>	6[hours for Thesis Prep do not count toward 30 hours required for graduation]		
<b>PHYS 583 Graduate Physics Seminar (Journal Club- encouraged but not required)</b>	<b>0.0</b>		
<b>Total Credits Earned in semester</b>	<b>9</b>		
<b>Cumulative Credits Earned</b>	<b>32</b>		
<i>Have Spring Thesis Committee Meeting- this meeting should lead to 'permission to prepare MA thesis' documentation</i>		Date:	

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### Recommended Curricular Pathway for Fisk-Vanderbilt Master's-to-PhD Program in Physics/Astrophysics BALANCE SHEET/Checklist for Tracking Progress

	CR. HR.	SEMESTER TAKEN	GRADES
VU Astro 352, Stellar Astrophysics	3		
<b>PHYS 501 Mathematical Methods or VU <u>PHYS 308 MATH METHODS, ON ADVICE FROM ADVISORS</u></b>	<b>3</b>		
<b><u>PHYS 541 ADVanced Dynamics or VU Phys 305 Particle and Continuum Mechanics, on advice from advisors</u></b>	3		
VU PHYS 330A – Quantum Mechanics, on advice from advisor. Can be replaced with Phys 542	(3)		
PHYS 583 Graduate Physics Seminar (Journal Club)	1.0		
Professional Skills for Grad Study Success	1.0		
VU Astro 355 – Order of Magnitude Astrophysics	0		
<b>Total Credits Earned in semester</b>	<b>11.0 (-14)</b>		
<i>Choose Faculty Research Mentor</i>			
Faculty Name:	Faculty Signature	Date	
<b>FIRST YEAR, SPRING SEMESTER</b>			
VU 329A-Electrodynamics I at Vanderbilt ( based on performance in Fisk-prepared pretest) OR Fisk PHYS 552 E and M	3		
VU Physics 341: Stat Mech, on advice from advisor	(3)		
Fisk PHYS 542 Nonrelativistic Quantum Mechanics, on advice from advisor –can be replaced with VU Phys330A	3		
Fisk PHYS 592 Research	3		
PHYS 584 Graduate Physics Seminar (Journal Club)	1		
VU Astro 355 – Order of Magnitude Astrophysics	0		
<b>Total Credits Earned in semester</b>	<b>10</b>		
Cumulative Credits Earned that can count toward graduation	21		
<i>Establish Advisory Committee</i>			
Faculty Name:	Faculty Signature:	Date:	
Faculty Name:	Faculty Signature:	Date:	
Faculty Name:	Faculty Signature:	Date:	
<i>Have first meeting of Advisory Committee</i>		Date:	

## Fisk Graduate Student Handbook for Fall 2015 Entrants

<b>FIRST YEAR, SUMMER</b>			
<b>PHYS 591/2 Research</b>	6		
<b>Total Credits Earned</b>	6 [only 3 count toward graduation]		
Cumulative Credits Counting toward graduation	24		
<b>SECOND YEAR, FALL SEMESTER</b>			
<b>VU Physics 330a: Quantum Mechanics I, OR VU Physics 305 Classical Mechanics , Or VU Physics 308, Math Methods</b>	3		
<b>VU Astro 355 – Order of Magnitude Astrophysics</b>	0		
<b>VU Astro 353 – Structure and Dynamics of Galaxies</b>	3		
<b>PHYS 583 Graduate Physics Seminar</b> (Journal Club, encouraged but not required)	0		
<b>PHYS 591 Research</b>	3.0[do not count toward 30 hours required for graduation ]		
<b>Total Credits Earned in semester</b>	<b>9</b>		
<b>Cumulative Credits Earned that can count toward graduation</b>	<b>31</b>		
<i>Have Fall meeting of Advisory Committee</i>		Date:	
<b>SECOND YEAR, SPRING SEMESTER</b>			
<b>VU Astro 310 – Radiative Processes in Astrophysics, or VU Astro 354 – Large Scale Structure, or VU Physics 341 Stat Mech, or VU Physics 329A – E+M</b>	3		
<b>VU Astro 355 – Order of Magnitude Astrophysics</b>	0		
<b>PHYS 599 Thesis Preparation</b>	0		
<b>PHYS 583 Graduate Physics Seminar</b> (Journal Club- encouraged but not required)	<b>0.0</b>		
<b>Total Credits Earned in semester</b>	<b>3</b>		
<b>Cumulative Credits Earned</b>	<b>34</b>		
<i>Have Spring Thesis Committee Meeting- this meeting should lead to 'permission to prepare MA thesis' documentation</i>		Date:	

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### **V. The Graduate Programs in Psychology at Fisk University**

#### **Contacts:**

The Graduate Programs in General and Clinical Psychology are hosted by the Fisk School of Graduate Studies within the School of Humanities and Social Sciences

#### **Director of Graduate Studies in Psychology**

**Dr. Sheila Peters, PhD**

**Associate Professor of Psychology**

**Office: 307A Park Johnson**

**Email: [speters@fisk.edu](mailto:speters@fisk.edu)**

**Phone: 329- 8575**

**Office:** Ms. Blanchie Dobson serves as the Administrative Assistant for the School of Humanities and Social Sciences (101 Park Johnson).

**Psychology Library:** (309 Park Johnson) Students enrolled in assessment classes may use testing materials located in the third-floor office. Assessment Library hours are posted on the door. Test kits may be checked out.

## *Fisk Graduate Student Handbook for Fall 2015 Entrants*

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### **Considerations for Admission:**

In addition to meeting the University requirements for admission to the graduate program, successful psychology graduate program applicants will have completed undergraduate courses in general psychology, statistics, and research methods. Abnormal and experimental psychology are highly recommended. Preference will be given to students who have extensive undergraduate coursework in psychology and experience in the field.

### **Grade Requirements in the Psychology Graduate Program**

Graduate students must maintain a 3.0 GPA. If the GPA falls below 3.0, no assistantship may be held, and the student may continue in the program *only* with the approval of the Psychology graduate faculty. A student can receive no more than two C grades and must receive higher grades in order to maintain the required 3.0 GPA for graduation. If permission to continue is granted, a contract is negotiated that delineates the probationary conditions for continuation.

### **Admission to Candidacy**

Before a student can be admitted to candidacy for the degree, *all* of the following conditions must be met:

1. Successful completion of a Thesis Proposal.
2. A 3.0 or higher GPA average across all completed courses and on track for completion of all coursework in a timely manner.
3. Successful completion of a Practicum course for students in Clinical Psychology.

Candidacy will be documented by a form provided by the Director of Graduate Studies in the Program, and must also be signed by the student's advisor

### **Advisement**

Given the importance of this professional relationship between student and advisor, each student is encouraged to select a graduate advisor within the first month of matriculation in consultation with the Director of the Graduate Program. The faculty advisor will provide guidance throughout the student's graduate matriculation for course selection and membership of the student's thesis committee.

### **Course Schedule**

Courses are scheduled in order to accommodate students with work and personal demands which require flexibility. Consequently, many graduate seminars are scheduling during the evening hours and may be adjusted at the discretion of the faculty member in consultation with all students enrolled in the specific course. Most courses are held on a weekly basis in a graduate thesis format designed to provide an educational opportunity for the student to engage in a scholarly discourse with faculty and peers.

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### **Graduate Tuition Waivers**

Students who have been admitted to the graduate program may be eligible for graduate tuition waivers. These waivers are allotted based on the number of eligible graduate students and may differ each academic year based on the availability of funds. As a requirement of the graduate tuition waiver, a recipient is required to serve as a Graduate Assistant with a full-time graduate faculty member. Students who receive a full graduate tuition waiver are thus required to work 10 hours a week with the designated faculty member. In the event that there are not enough activities to constitute a 10 hour commitment, the student should consult with the Director of Graduate Studies in Psychology regarding other opportunities for engaging in the academic environment. A regular time sheet is maintained within the departmental office and is submitted on a bi-weekly basis.

### **Faculty Mentors in the MA Programs in General or Clinical Psychology (\*adjunct faculty)**

Stephanie Bellard-Chase

Leslie Collins

Sheila R. Peters

David McMillan\*

Lorraine Williams Greene \*

Andre Bean\*

### **History**

The graduate programs in Psychology were organized in the early 1950s under the leadership of Dr. S. O. Roberts. During the 1980s, through funding by the National Institute of Mental Health, the program was organized in collaboration with faculty and scholars at Meharry Medical College. During this era, the Clinical Psychology program provided training to a cadre of practitioners who were seeking licensure as Psychological Examiners within the State of Tennessee.

## *Fisk Graduate Student Handbook for Fall 2015 Entrants*

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### **Details of the Graduate Program in Clinical Psychology at Fisk University**

The Master of Arts degree currently in clinical psychology requires a thesis and two years of academic and related work, and is designed to enable the student to qualify for an appropriate master's level professional position in the broad fields of human behavior and services. The clinical program has been modified from its original format to provide students with the necessary course work and practicum training for eligibility as Licensed Professional Counselors, to conform to revised licensure options within the State of Tennessee, Psychology Board of Examiners.

The clinical psychology program is designed to:

1. prepare students for doctoral level study in psychology;
2. train students in research methodology;
3. acquaint students with ethical concerns in research and practice;
4. prepare students for licensure as a psychological examiner in clinical practice in the State of Tennessee; and
5. develop skill in the critical study of concepts, theories, and systems of psychology and in analysis of examples of psychological research.

Students who complete the clinical program will be able to:

1. define and use appropriately the important concepts of contemporary psychology;
2. identify and describe major historical and contemporary theories of psychology and evaluate empirical research as a support for theories and principles in psychology
3. analyze and interpret data gathered using various research methods;
4. evaluate the design and analysis of research studies in psychology;
5. design, conduct, and analyze and interpret data for an independent research project;
6. communicate the results of empirical, library, and internet research both orally and in writing;
7. define the ethical responsibilities of psychologists in both research and practice;
8. choose, administer, and interpret scores of tests commonly used in the practice of psychology; and
9. demonstrate the use of therapeutic techniques commonly used by master's level psychologists.

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### **Required Course Sequence for M. A. in Clinical Psychology**

**Total: 42 credit hours.**

#### **First Year, Fall Semester (12 credits)**

PSY 507	Personality Theory
PSY 513	Advanced Statistics
PSY 521	Proseminar I
PSY 541	Psychopathology

#### **First Year, Spring Semester (12 credits)**

PSY 522	Proseminar II
PSY 532	Research Design and Methodology
PSY 544	Psychodiagnostics I
PSY 552	Psychotherapy

#### **Second Year, Fall Semester (10 credits)**

PSY 545	Psychodiagnostics II
PSY 547	Practicum I
PSY 555	Intervention: Child and Adolescent
PSY 561	Thesis Seminar I

#### **Second Year, Spring Semester (8 credits)**

PSY 548	Practicum II
PSY 556	Intervention: Group and Family
PSY 562	Thesis Seminar II
PSY 550	Ethics

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### **Details of the MA in General Psychology Program at Fisk University: [ This program is not available for 2015 Entrants]**

Students within the general psychology program are encouraged to pursue research interests through their scholarship for preparation for future graduate study in psychology.

The General Psychology program is designed to:

1. prepare students for doctoral level study in psychology;
2. prepare students to teach psychology in a community college;
3. train students in research methodology;
4. acquaint students with ethical concerns in research and practice;
5. develop skill in the critical study of the major concepts, theories, and systems of psychology and in the analysis of examples of psychological research; and
6. support specialized study in the area of psychology chosen by the student in consultation with a faculty advisor.

Students who complete this program will be able to:

1. define and use appropriately the important concepts of contemporary psychology;
2. identify and describe major historical and contemporary theories of psychology and evaluate empirical research as support for theories and principles of psychology;
3. analyze and interpret data gathered using various research methods;
4. evaluate the design and analysis of research studies in psychology;
5. design, conduct, and analyze and interpret data for an independent research project;
6. communicate the results of empirical, library, and Internet research both orally and in writing;
7. define the ethical responsibilities of psychologists in both research and practice; and
8. demonstrate advanced knowledge in a specialized area of psychology.

Required Courses for The student's program in the general psychology program is planned with an advisor and depends on the student's background and goals. Thirty credit hours are required which must include the following courses:

PSY 507	Personality Theory
PSY 513	Advanced Statistics
PSY 521-522	Proseminar I and II
PSY 532	Research Design and Methodology
PSY 561-562	Thesis Seminar I and II

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### **Fisk University Graduate Courses in Psychology (PSY) :**

**PSY 500, INDEPENDENT READINGS AND RESEARCH**, variable credit. For the graduate student in psychology who is interested in and capable of doing a minor investigation in psychology, largely through independent study and research. Individual conferences. Offered as needed.

**PSY 507, PERSONALITY THEORY**, 3 credits. A survey of the various theoretical and experimental approaches to personality; problems of research methods in personality.

**PSY 513, STATISTICS AND RESEARCH DESIGN I**, 3 credits. A review of descriptive statistics and study of inferential statistics using the normal, t, and F distributions. Course will include techniques for a literature search and the organization of information for a presentation of the literature.

**PSY 514, STATISTICS AND RESEARCH DESIGN II**, 3 credits. This course is a continuation of PSY 513. It continues the study of inferential statistics using correlation and regression analyses and the chi square distribution. The course will also include a study of various types of research designs, sampling procedures, control procedures, data collection, and analysis and interpretation of research results.

**PSY 521, 522, PROSEMINAR I and II**, 3 credits each semester. Seminars designed to cover a wide range of basic and contemporary topics in modular sequence. Students will research and read literature in selected areas, present their work to the class, and lead the seminar in discussion.

**PSY 540, SUPERVISED COLLEGE TEACHING**, 3 credits. Supervised teaching at the college level. Prerequisite: Permission of the Department.

**PSY 541, PSYCHOPATHOLOGY**, 3 credits. Advanced course addressing the major mental disorders using the DSM-IV. Etiology, diagnosis, and prognosis are emphasized.

**PSY 544, PSYCHODIAGNOSTICS I**, 3 credits. Introduction to psychological assessment procedures and techniques. Focuses on test construction. Includes review of intelligence, achievement, aptitude, intellectual, career/vocational, and other related psychological measures. Directed toward development of competence in the selection, administration, scoring, and interpretation of intellectual and cognitive measures.

**PSY 545, PSYCHODIAGNOSTICS II**, 3 credits. Clinical assessment based on individual case studies employing interviews and psychological test data. Comprehensive report writing is emphasized. Prerequisite: PSY 544.

**PSY 547, 548, PRACTICUM**, 3 credits each semester. Individually supervised clinical experience in psycho-diagnosis and psychotherapy. Placement in appropriate mental health settings with in-patient and out-patient clientele. Open only to second-year graduate students. Student must register concurrently for PSY 547S-548S.

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**PSY 547S, 548S, PRACTICUM SEMINAR**, not for credit. Discussion and evaluation of practicum experience. Must be taken concurrently with PSY 547-548S.

**PSY 550, ETHICS AND PROFESSIONAL ISSUES IN PSYCHOLOGY**, 3 credits. This course is designed to introduce students to ethical decision making in human services, teaching and research. Emphasis will be placed on professional, ethical and legal issues in the application of psychology with particular emphasis on counseling and intervention.

**PSY 552, PSYCHOTHERAPY**, 3 credits. Emphasis will be placed on evaluation of various therapeutic approaches and their effectiveness with diverse populations. Prerequisites: PSY 507 and 541.

**PSY 555, INTERVENTION: CHILD AND ADOLESCENT**, 3 credits. Advanced course focused on development psychopathology; clinical application of prevention, intervention, and treatment of children and adolescents.

**PSY 556, INTERVENTION: GROUP AND FAMILY**, 3 credits. Advanced course focused on systems theory and change. Includes clinical application of therapeutic techniques targeting groups and families.

**PSY 561, RESEARCH IN PSYCHOLOGY I**, 1 credit. Individual, empirical research required for M.A. degree in psychology.

**PSY 562, RESEARCH IN PSYCHOLOGY II**, 2 credits. Individual, empirical research required for M.A. degree in psychology.

**PSY 599, THESIS PREPARATION**, not for credit. Required enrollment for students who wish to maintain active status and who have completed all course requirements but have not submitted an approved thesis.

*Note: Qualified undergraduates may be permitted to enroll in graduate courses with the consent of the Discipline Coordinator and authorized by the Department Chair.*

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### **Thesis Committee**

Each student should obtain the support of the faculty through the selection of a Thesis Advisor and Committee. The Thesis Committee consists of three faculty members unless otherwise determined by the Director of Graduate Studies. One member of the Thesis Committee may be an approved faculty member outside of Fisk University. The student must receive permission for this individual to serve in this capacity.

### **Student Responsibility for the Completion of the Thesis in Psychology**

The completion of a thesis can be a long, arduous process which requires discipline, determination and commitment to scholarship. From the initial conceptualization of the thesis idea, the student is encouraged to develop a sound time management plan.

For clinical psychology students who have a practicum requirement, it is strongly suggested that students commit the summer between their first and second years to the development of the thesis.

For part-time students, it is expected that it will take more than two years for the student to complete the program.

### **Suggested Timeline for Thesis Development in Psychology**

Each graduate student is encouraged to develop a specific topic for the thesis during the first semester of matriculation. Within the Statistics course, students will be given the opportunity to review scholarly resources on a selected topic and develop a draft proposal on this topic. In consultation with the academic advisor, students are strongly suggested to choose a topic that can be developed into a thesis idea. *Selection of a topic within the Statistics course that can evolve into a thesis topic is crucial, given that students will be required to present a Thesis Proposal to the entire faculty during the second semester of full-time matriculation.*

The purpose of the Thesis Proposal is to present the topic and gain departmental approval for proceeding with the development and implementation of the thesis. Each student is required to demonstrate competency in the Thesis Orals. In order to maximize the learning experience and assist the student in successfully passing the Thesis Orals, the student is expected to participate in a Mock Oral. This process is designed to benefit the student and provide appropriate advisement for the student in the completion of the Thesis.

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#### **Timeline for Thesis**

<b>Activity</b>	<b>Responsible Parties</b>	<b>Deadline</b>
<b>Proposal Development</b>	Student	Spring of 1 <sup>st</sup> year
<b>Selection of Thesis Committee</b>	Student and identified faculty	No later than spring of 1 <sup>st</sup> year
<b>Proposal Meeting</b>	Student and Thesis Committee	No later than end of spring semester of 1 <sup>st</sup> year

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## *Fisk Graduate Student Handbook for Fall 2015 Entrants*

<b>Submission of proposal to IRB</b>	Student, Advisor	Thesis	Within thirty days after successful proposal meeting
<b>Data Collection</b>	Student		Fall Semester of 2 <sup>nd</sup> year
<b>Approval of Chapters 1-3</b>	Student, Committee	Thesis	By the end of fall semester of 2 <sup>nd</sup> year
<b>Submission of Forms for Graduation</b>	Student, Committee	Thesis	December 1
<b>Data Analysis</b>	Student, Committee	Thesis	End of January of 2 <sup>nd</sup> year
<b>Completion of Thesis Draft</b>	Student, Committee	Thesis	March of 2 <sup>nd</sup> year
<b>Mock Orals</b>	Student		March
<b>Orals</b>	Student		April
<b>Approved Thesis</b>	Student		April

### **Suggested Outline for the Thesis in Psychology**

**Thesis Abstract:** The Thesis Abstract is used by the Psychology Graduate Program for the thesis is a document that combines characteristics of the usual journal abstract and the formats of the Psychology Thesis format-Thesis Proposal. The Abstract is prepared to be given to persons who serve as Examiners for master's oral examinations, *in lieu* of providing each Examiner with a copy of the entire thesis. For that reason, the Abstract is usually longer than the usual abstract, but includes the same components.

The Abstract should be single-spaced and should be printed or typed on one side of the paper only. Sections to be included in the Abstract are almost identical to those specified. for the thesis, and are as follows :

**Introduction:** The Introduction should include a brief statement of the background of your problem, ending with a specific statement of the problem, hypotheses and/or research questions, and a brief statement on the importance of the study. Assumptions and definitions should also be included, in the same order as in the Thesis, if they are integral to understanding of the study.

**Summary of Related Literature:** This summary should be a condensed presentation of Chapter II of the thesis.

**Method:** The Method section describes in brief the salient elements of the method used in the study including subjects, data/instruments/apparatus and procedures.

**Results:** All results should be stated briefly here in a similar manner as in the thesis.

**Discussion and Interpretation:** The Discussion and Interpretation section is a condensed version of Chapter V of the thesis and any conclusions .

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**Selected References:** *Selected references* refer to the list of only those references cited in the Abstract, not the complete list of references that appear in the thesis.

### **Helpful Hints:**

1. The Abstract is supposed to give persons who have not read the thesis a clear idea of the main objectives and goals of the thesis. If the thesis is well written, there will be good paragraphs in it that can be pulled out (sometimes with only minor modifications) to form much of the Abstract.
2. The Abstract is not the same as the thesis Summary and Conclusions chapter. Although both documents will share some elements in common, they are put together differently.
3. The section on literature can often be pulled together from the summary section in Chapter II of the thesis, by inserting references in appropriate places.
4. It is usually desirable to include a Results summary table in the Abstract. This will involve finding a way to combine your results into a single Table if possible. Or you may wish to include only those results which clearly demonstrate the core findings within the research investigation. A figure or graph may also be included, and should be if it will enhance clarity. Each candidate must decide how best to illustrate results without presenting each Table of results in its entirety.
5. Since sub-headings are not recommended for the Abstract, the narrative must integrate the appropriate sub-sections within the major headings.
6. When you have completed your Abstract, let someone who is not familiar with your study read it (even before you show it to your advisor) to see if it is clear to that person. You want to clearly communicate what you did in your study, how you conducted your study, what you found in your investigation and the meaning of your results and findings. If it is clear, then it is likely that you have produced a satisfactory Abstract.
7. Individual abstracts may or may not require an Appendix. If you have used a test instrument that is relatively unknown, you may wish to append a copy of it. This should be discussed with your advisor. If you do have an Appendix, it should follow the references.
8. No-specific guidelines are prescribed for the length of the Abstract. Studies that have few hypothesis and simple designs do not require as long an abstract as studies that have many hypotheses and more complex designs.

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### **Reminder to Trainees in ALL GRADUATE PROGRAMS at Fisk University:**

**It is the responsibility of the GRADUATE STUDENT to keep aware of changes in the program, requirements, and timelines.**

Directors of Graduate Studies will serve as your guide. THEY are the faculty members from whom you should obtain your information regarding your graduate program, always keeping your research advisor/mentor aware of relevant deadlines and policies.

#### ***Reminder of Directors of Graduate Studies:***

Biology: Brian Nelms, PhD

Chemistry: Natalie Arnett, PhD

Physics: Arnold Burger, PhD

Psychology/Clinical Psychology: Sheila Peters, PhD

*All of us* wish you the best on your journey!

Lee E. Limbird, PhD  
Dean, School of Graduate Studies

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### **Useful Fisk University Telephone Numbers/Contacts (615) 329-**

Campus Operator	8500
Marian Burns: <a href="mailto:mburns@fisk.edu">mburns@fisk.edu</a>	8664
Constantine (Consti) Coca: <a href="mailto:ccoca@fisk.edu">ccoca@fisk.edu</a>	8517
Information Technology Services	8693
Optimal service achieved by emailing for service ticket:	<a href="mailto:itshelp@fisk.edu">itshelp@fisk.edu</a>
Public Safety-call to be admitted to locked buildings/	8777
Registrar	8057

## APPENDIX MATERIALS

### **Section I / Appendix A: Regulations Concerning Thesis Submitted by Candidates for the Master of Arts Degree**

Attachments :

- A. Sample Title Page**
- B. Sample Approval Sheet for Thesis**
- C. Format for Chemistry Master's Thesis**

### **Section II: Forms**

**Request to Appoint Thesis Committee**

**Request to Change Thesis Committee**

**Summary of Thesis Committee Meeting(s)**

**Request to Permit Conferring of the Master's Degree ( Multi-part form)**

- A. Student Information**
- B. Academic Information**
- C. Summary of Thesis Committee Meeting where Permission to Complete and Defend thesis is Given**
- D. Request to Schedule Defense**
- E. Results of Thesis Defense**
- F. Information for Publication in the Commencement Bulletin**

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## **Section I/ Appendix A**

### **Fisk University**

#### **Regulations Concerning Thesis Submitted by Candidates for the Master of Arts Degree**

##### **I. GENERAL REGULATIONS**

- A. The Graduate Committee has approved the following statement on the nature of the Master's thesis required at Fisk University:

..... The Master's thesis will typically represent research that contributes new knowledge. The Master's thesis must also represent more than an assembling of factual data and of other people's opinions. The document must show the student's ability to recognize and interpret the research material so as to arrive at a conclusion. This conclusion may, of course, be tentative, but it should be well supported and of some significance.

- B. University regulations provide that the subject of the thesis must be approved by the thesis mentor, thesis committee, and the Director of the graduate program not later than December 3 of the academic year in which the candidate expects to take the degree. Programs may set an earlier date for approval of the thesis subject.
- C. Three copies of the complete thesis should be submitted to the University Library; the Library takes responsibility for the binding of these three copies. Two of these will be retained by the University (one for Special Collections, and one for General Circulation), and one will be returned to the student. Additional copies desired by the student must be bound at the student's expense.
- D. In order to receive the degree at a given Commencement, a student must submit the three finished copies of the thesis to the Library for final checking and approval at least three weeks before Commencement. Naturally, this version of the thesis will already have been approved by the thesis committee, and the corrections requested by that committee already made, as affirmed by the approval sheet that accompanies each copy of the thesis.

##### **II. FORMAT OF THE THESIS**

- A. The format of the thesis, includes the sections given in the following list, and in the sequence shown:

\*1. Title Page. The title page includes the title of the work, which states the subject of the thesis; the designation of the faculty, and the institution to which the thesis is presented; the degree for which the thesis is submitted; the full name of the candidate; and the month and year in which the degree is to be received.

\*\*2. Approval Sheet. The page following the title page is the form sheet for signatures of approval by the student's thesis committee, and by the Director of Graduate Studies for the Program. This form must be on the same bond paper as the thesis document.

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3. Acknowledgements. (if desired)
4. Table of Contents.
5. List of Tables. (if any).
  
6. List of Figures. (if any). This may be subdivided into charts, graphs, illustrations, etc.
7. Text of the Thesis.
  
8. Bibliography. (for the Psychology thesis, the title References is used for this section. See APA Publication Manual for form and arrangements.
  
9. Appendix or Appendixes. (if any).
10. Index. (if any).

\* Attachment A: Sample Title Page

\*\* Attachment B: Sample Approval Sheet for Thesis

\*\*\* Attachment C: *Specific guidelines* for preparing the Master's Thesis Document in Chemistry

### III. GENERAL SPECIFICATIONS for the THESIS DOCUMENT

- A. Print. Font size should not be smaller than Times New Roman, font 12.
- B. Paper. All copies must be typed or reproduced on bond paper (100% Rag or cotton content preferred, but not less than 50%).
- C. Ink. A laser jet printer or a letter quality printer should be used.
- D. Strike-Overs. Strike-overs are not acceptable under any condition.
- E. Page Specifications. Twenty-five (25) double spaced lines, or their equivalent, are all that should be placed on any page. If, however, any deviation from the twenty-five double spaced lines is necessary, not more than one single-space above or below that limit is permissible. If, for example, in typing footnotes at the bottom of the page, the footnotes runs beyond the limit of twenty-five double-spaced lines, it should not be allowed to go more than one single-space beyond that point. If, it ends before the twenty-five double-spaced line is reached, the page should be so proportioned that it will not end more than one single space preceding that limit, unless it is the last page of a chapter or a section.
- F. Margins. The left margin should be set one and one-half (1 1/2) inches from the left edge of the paper (room is required for binding). All other margins should be one inch.

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- G. Indentation. A line of indentation, which is constant for all indented material, is established five (5) spaces to the right of the left-hand margin. This distance is kept constant whether it is for a paragraphs of the text, a paragraph of quoted material, or a footnote.
- H. Footnotes. The line dividing the footnote from the text should be sixteen (16) spaces in length, beginning at the left-hand margin of the page. Footnotes are generally single-spaced. (Note: Footnotes should be used very sparingly, if at all, for the thesis in Psychology).
- I. Pagination. Every page in a thesis is assigned a definite number, although not every page has a number placed thereon. The first page of any section will not have a page number printed on it, but a number will be allowed for that page.

Page numbers are placed on the fifth single-spaced line from the top of the page and aligned with the right-hand margin. There must be a triple space between the page number and the first line of writing.

All of the pages of that portion of the thesis preceding the first page of Chapter I will be numbered in small Roman numerals, as a separate unit of the thesis. These numbers are centered at the bottom of the page and on the title page or Approval Sheet, although they should be counted in the pagination.

- J. Spacing Between Lines. The major portion of the thesis will be double-spaced, but there are several places where triple-spacing is needed. For example, there are three single-spaces between the chapter number and the title of the chapter. Below the title of the chapter, three single-spaces are allowed before the first line of the manuscript is typed. Furthermore, preceding any under-scored introductory caption in a paragraph, three single-spaces intervene between the last line of typed material and such centered caption or a paragraph caption.
- K. Alignment of Roman numerals and Page Numbers. When Roman numerals are arranged in an outline form, the right-hand margin is aligned, as in the case of Arabic numerals. This will make the left-hand margin uneven, but it is the accepted form for thesis work. Due allowance must be made when starting a page to provide spaces for the larger numerals; for example- XXIII. A column for these figures appear in the following alignment:

I.....	1
II.....	7
III.....	18
IV.....	99
V.....	124

- L. Proofreading. The entire thesis should be proofread before having the final copy printed to turn in to your advisor, and it should be read in its entirety by the writer after the final copy has been printed. Words, the spelling of which may be unfamiliar to the student, should be confirmed in a dictionary or via spell-check. The syllabic division of the hyphenated words at the end of lines should be very carefully checked by the student.

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All pages must be properly assembled in each copy, so that the type impression will conform throughout; and that each chart, table, illustration, etc., is included in each copy and in its proper place.

M Final Responsibility. The final responsibility for the acceptability of the thesis rests with the student; therefore, it is of the utmost importance that he/she check every detail himself/herself and not depend upon the printer or his/her advisor for such details.

N.Presentation of the Final Thesis Copies. The final theses should be turned in with each copy in a separate manila folder, and with a blank sheet of bond paper in front of and behind the first and last pages, respectively.

\* **Attachment A - Sample Title Page for Thesis**

(6 single spaces from top of page)

**THE EFFECTS OF SORBITOL AND MANNITOL ON THE DIGESTIVE TRACT OF  
MALE ALBINO RATS**

(6 single spaces)

A Thesis

(3 single spaces)

Submitted to the Graduate Faculty

of

Fisk University

(3 single spaces)

Discipline of Biology

(5 single spaces)

By

(5 single spaces)

Alberta Rosetta Rooks

(6 single spaces)

In Partial Fulfillment

of the requirements for the Degree

Master of Arts

(4 single spaces)

Date as Month, Year

**\*\* Attachment B - Sample Approval Sheet for Thesis**

(6 single spaces from top of page)

**FISK UNIVERSITY**

( 6 single spaces)

Approval Sheet for Thesis  
Submitted in Candidacy for the Degree of  
Master of Arts

( 3 single spaces)

**GENETIC ANALYSIS OF EST3P INTERACTION AND FUNCTION IN  
SACCHAROMYCES CEREVISIAE**

( 4 single spaces)

By  
ONUOHA ESTHER AKUNNA

( 4 single spaces)

B.Sc. ABIA STATE UNIVERSITY, 2005  
ABIA STATE, NIGERIA

( 5 single spaces)

Approved by the Graduate Program in Biology  
Department of Life and Physical Sciences

Supervised by:

\_\_\_\_\_ Date: \_\_\_\_\_

Katherine Friedman, Ph.D.

\_\_\_\_\_ Date: \_\_\_\_\_

Lee Limbird, Ph.D.

\_\_\_\_\_ Date: \_\_\_\_\_

Todd Graham, Ph.D.

\_\_\_\_\_ Date: \_\_\_\_\_

Brian Nelms, Ph.D. (Director of Graduate Studies, Biology )

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### \*\*\* Attachment C- Format for Chemistry Master's Thesis

The following information is a guide that should be used to prepare the text section of your thesis. Please make sure that you incorporate **ALL** the relevant information listed below into your **text section** of your final thesis. No document will be approved without the required information.

#### 7. Text of the Thesis.

- A. Abstract- Overview of the research and some key results that made this research successful.
- B. Literature Review- This section contains the pertinent historical and theoretical material found in the literature which is relevant to the student's research. Sources listed in this section should be reference according to the American Chemical Society (ACS) references guidelines.
- C. Experimental- This section should be written in the **past tense** and **passive voice**. Information that should be presented in this section include:
  - a. Materials and Methods- All materials and reagents used must be identified. Include the actual values you used in the experiments (weights, concentration, purity, volumes etc.).
  - b. Procedure- A precise description of how the work was done must be written in your own words.
  - c. Instrumentation- Unless it is considered standard equipment, a description of the apparatus is required (source, name, etc)
- D. Results and Discussion- **This is the most important section of the thesis. It demonstrates that you understand and can interpret the data you have collected.** This section of the report should include any tables and graphs with titles, names, labeled axes etc. The major experimental results, including the original data and their analyses should be presented. Students should relate and interpret the experimental results (the data obtained, observations, graphs, etc) to previous research conducted and presented in peer-reviewed journal or books. Be sure to include a number for the appropriate reference.
- E. Conclusion- This section summarizes the main results
- F. Future Projections- Suggest improvements that can be made to make this research successful.

**APPENDIX Section II**

All Necessary FORMS to Use Throughout Graduate Training at Fisk University

*Students*, it is YOUR responsibility to be aware of these forms and to use them as required throughout the course of your training.





REQUEST TO CHANGE THESIS COMMITTEE

IMPORTANT: Prior to modification of the committee appointment, this form should be delivered to the Graduate Program Director to be signed. This completed form should be scanned for files maintained the Director of Graduate Studies and forwarded as a .pdf file to Marian Burns ( mburns@fisk.edu) in the Graduate School Office, DuBois Hall, Room 206.

TO: Dean of the Graduate School

This is to request the change of the following Thesis committee for:

(Student's Name)

(Student's I.D. Number)

in (Program)

with (Thesis Advisor)

Members to be deleted from the Committee:

Please Type Name:

Discipline/Department:

Three horizontal lines for name input.

Three horizontal lines for discipline/department input.

Members to be added to the Committee:

Please Type Name:

Discipline/Department:

Five horizontal lines for name input.

Five horizontal lines for discipline/department input.

Director of Graduate Studies:

Signature

Date

DGS, please send a copy of this form, once completed, to mburns@fisk.edu



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**Summary of student performance, and recommended next steps shared with the student in person and in writing as a follow-up email:**

**Director of Graduate  
Studies Program**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

DGS, please send a copy of this form, once completed, to [mburns@fisk.edu](mailto:mburns@fisk.edu)

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**GRADUATE SCHOOL COMPLETION AUDIT – Formerly form requesting to Confer Graduate Degree**

A. *Student Information* (Due Semester **PRIOR TO** Commencement)

(PLEASE TYPE)

**NAME:** \_\_\_\_\_  
First Name Middle Last Name  
(as it should appear on your diploma)

**STUDENT ID.** \_\_\_\_\_

**Undergraduate Institution:** \_\_\_\_\_

**Undergraduate Degree (BA/BS):** \_\_\_\_\_

**Undergraduate Major:** \_\_\_\_\_

**Anticipated Graduation Date:** \_\_\_\_\_

**Contact address after Graduation**  
\_\_\_\_\_  
\_\_\_\_\_

**Degree Program:** \_\_\_\_\_

**Approved:** \_\_\_\_\_  
(Faculty Research Advisor) **Date**

**Program Director of Graduate Studies:** \_\_\_\_\_ **Date**

**Candidate:** \_\_\_\_\_ **Date**

DGS, please send a copy of this form, once completed, to [mburns@fisk.edu](mailto:mburns@fisk.edu)

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Graduate School Completion Audit, continued

**B. Academic Information** (Due Semester **PRIOR TO** Commencement)

1. Name: \_\_\_\_\_ Date: \_\_\_\_\_

2. Department: \_\_\_\_\_ Concentration: \_\_\_\_\_

3. Date proposed for receiving the degree: \_\_\_\_\_

4. Courses completed in partial fulfillment of the requirements: (**attach CAMS Documentation**)

Cumulative GPA: \_\_\_\_\_

(From unofficial transcript, attached)

For Reference:

Program	Didactic Hours		Research Hours	Total
	Required	Electives		
Biology	Up to 14	7 or more	6-9	30
Chemistry	13	Up to 8	9	30
Physics	9 [core]	15	6	30
General Psychology	30			30
Clinical Psychology	42			42

Course 599 (Thesis Preparation) does not count toward degree hours.

Draft Thesis Title: \_\_\_\_\_

**Abstract - as approved by Thesis Committee at time candidacy conferred**  
(attach abstract to this document)

Candidate: \_\_\_\_\_  
(Print Name) (Signature)

Director of Graduate Studies Program: \_\_\_\_\_  
(Print Name) (Signature)

Dean of the Graduate School: \_\_\_\_\_  
(Signature) (Date)

DGS, please send a copy of this form, once completed, to [mburns@fisk.edu](mailto:mburns@fisk.edu)



## C. Summary of Thesis Committee Meeting Where Permission to Prepare and Defend Thesis Given

Date:

\_\_\_\_\_  
(Student's Name)

\_\_\_\_\_  
(Student's I.D. Number)

\_\_\_\_\_  
(Thesis Advisor)

\_\_\_\_\_  
(Graduate Program)

This is to confirm that the following thesis meeting occurred for the above student.

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Place: \_\_\_\_\_

**Members of the Committee-note absent or present**

*Please Type Name:*

\_\_\_\_\_, *Mentor and Chair*

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_, *Ex Officio*

**Attached is meeting summary, which also must be completed, as for all other Committee meetings**

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Summary of student performance, and recommended next steps shared with the student in person and in writing as a follow-up email:

This meeting confirms that \_\_\_\_\_ (**Graduate Student**) has been approved to set a Defense Date for the MA Degree in \_\_\_\_\_. Yes \_\_\_\_\_ No \_\_\_\_\_  
**(Graduate Program)**

Candidate: \_\_\_\_\_  
**Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

Thesis Research Advisor: \_\_\_\_\_  
**Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

Program DGS: \_\_\_\_\_  
**Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

DGS, please send a copy of this form, once completed, to [mburns@fisk.edu](mailto:mburns@fisk.edu)



D.REQUEST TO SCHEDULE THESIS DEFENSE

IMPORTANT: Prior to presentation of defense, this form should signed by the Director of Graduate Studies, and a scanned copy provided to the Graduate School Office in DuBois Hall 206 to the attention of Marian Burns ( mburns@fisk.edu )

TO: Dean of the Graduate School

This is to inform you that

(Student's Name)

(Student's I.D. Number)

in (Program)

with (Thesis Advisor)

is scheduled to defend his/her thesis

on (Date)

at (Time)

in/at (Location)

Title of Thesis:

Signatures MUST be obtained by all members of committee and the Director of Graduate Studies in the Program to allow setting of Thesis defense date !!

Please Type Name:

Discipline/Department:

Mentor and Chair

Signature lines for Mentor and Chair

Ex Officio

Signature lines for Ex Officio

Director of Graduate Studies:

Signature

Date

DGS, please send a copy of this form, once completed, to mburns@fisk.edu



## E. RESULTS OF THESIS DEFENSE

To: Dean of Graduate Studies. This is to inform you that:

\_\_\_\_\_  
(Student's Name)

\_\_\_\_\_  
(Student's I.D. Number)

\_\_\_\_\_  
(Thesis Advisor)

Passed  — and is thereby approved for graduation for \_\_\_\_\_  
(Graduation Term)

The thesis defense on \_\_\_\_\_  
Date

Graduate Program: \_\_\_\_\_

Thesis Title: \_\_\_\_\_  
(attach copy of First Page of Thesis)

### Members of the Committee

Please Type Name:

Signature:

\_\_\_\_\_, Mentor and Chair \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_, *Ex Officio* \_\_\_\_\_

Director of Graduate Studies for the Program: \_\_\_\_\_  
Signature

Date

Dean of Graduate Studies: \_\_\_\_\_  
Signature

Date

DGS, please send a copy of this form, once completed, to [mburns@fisk.edu](mailto:mburns@fisk.edu)



## **F. Information for Printed Materials to be Distributed at your Fisk University Commencement**

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**IMPORTANT:** Please confirm with the Dean of the Library that a complete and properly formatted dissertation document has been received by the library.

\_\_\_\_\_  
(Student's Name)

\_\_\_\_\_  
(Student's I.D. Number)

\_\_\_\_\_  
(Thesis Advisor)

\_\_\_\_\_  
(Graduate Program)

**Thesis title:** \_\_\_\_\_

**Undergraduate Institution:** \_\_\_\_\_

**Undergraduate Major:** \_\_\_\_\_

**Date undergraduate degree received:** \_\_\_\_\_

**Candidate:** \_\_\_\_\_  
Signature

**Date**

**Program DGS:** \_\_\_\_\_  
Signature

**Date**

DGS, please send a copy of this form, once completed, to [mburns@fisk.edu](mailto:mburns@fisk.edu)