

# Fisk University Graduate Catalog



**2019-2020**

# Fisk University

## Graduate Catalog

### **The Mission of Fisk University:**

Fisk University produces graduates from diverse backgrounds with the integrity and intellect required for substantive contributions to society. Our undergraduate curriculum is grounded in the liberal arts. Our faculty and administrators emphasize the discovery and advancement of knowledge through research in the natural and social sciences, business and the humanities. We are committed to the success of scholars and leaders with a global perspective.

### **Accreditation:**

Fisk University is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award the Bachelor of Arts (B.A.), Bachelor of Science (B.S.), Bachelor of Music (B.M.), and Master of Arts (M.A.) degrees.

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## 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 participate in Master's Programs in Biology, Chemistry, Clinical Psychology, and Physics. Fisk University also hosts a Master's degree in Sociology, which is currently inactive.

Fisk University 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 Biology, Biomedical Sciences, Chemistry and Physics (including Materials Science and Astrophysics). Further detail about this program is available at [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 the Fisk graduate programs and critical staff members. The Council also invites as *ex officio* any faculty members who serve as Principal Investigators on extramurally funded Programs that provide essential resources for student tuition and stipends.

### *Membership of the Graduate Council, 2018-2019 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, Psychology / Clinical Psychology  
Shirley Rainey-Brown, PhD, Sociology  
Dina Myers Stroud, PhD, Exec. Dir. of the Fisk-Vanderbilt Master's-to-PhD Bridge Program  
Constantine Coca, Coordinator of the Fisk-Vanderbilt Masters-to-PhD Bridge Program

Mr. Coca maintains a digital file of completed forms/documents for *all* graduate programs and a backup of all approved Master's thesis documents in behalf of our Fisk University Library.

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

Ex officio, invited but attendance optional  
Cathy R. Martin, PhD, Dean of Natural Sciences, Mathematics, and Business  
Representative from the Office for the Provost and Vice President for Academic Affairs

The Council is responsible for the ongoing review and improvement of the component graduate programs, review and recommendation for approval of new programs to the Fisk University Faculty Assembly Research and Education Committee and to the Provost, and the development of trans-program professional skills development programs for the Graduate Students.

## **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 requirements are outlined below.

**Application Materials.** Consideration for admission to the Graduate Program at Fisk University requires that the following materials are submitted to the Fisk University Office of Admissions at Fisk University. Admissions decisions will only be made once a complete application has been received. Admissions considerations of each candidate are holistic in nature, and consider the academic standing of the student to date as well as any undergraduate and post-graduate experiences related to the Master's degree to which they are applying.

- 1. A completed *application form for graduate study*** to the Office of Admissions, using the online version of the application form (available online at [www.fisk.edu](http://www.fisk.edu)).

For students applying to the Fisk-Vanderbilt Masters-to-PhD Bridge program (FVBP), 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, and *all* materials for that program should be sent to him.

- 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.

For students applying to the Fisk-Vanderbilt Master's to PhD Bridge Program, all application materials, including unofficial student-accessible transcripts, for the Bridge Program also should be sent to [ccoca@fisk.edu](mailto:ccoca@fisk.edu)

- 3. A personal statement** addressing the applicant's long-term career goals, and the knowledge, work and/or research experiences to date in pursuit of that goal, as well as the applicant's aspirations of what they will learn from the graduate program to which they are applying is an important part of the application. This document is typically at least one but no more than two pages in length.
- 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. Graduate Record Examination (GRE) scores for the General Test are also expected, though not required.** Based on our understanding of the limitation of the GRE in assessing an applicant's preparedness and fit for their career goals and their ability to flourish in our graduate program (Miller and Stassun, 2014, *Nature* 510: 303-304 'A Test that Fails'), these scores are part of a holistic consideration of the candidate. In particular, these scores are of value to program mentors in supporting trainees in their preparing for the GRE exam if it is needed for next-step transitions to graduate or professional degrees.

GRE Scores must be submitted directly to Fisk University from the Educational Testing Service, ETS. For the Fisk-Vanderbilt Master's to PhD Program, GRE Scores can be provided in advance of ETS submission by the candidate, to the program director for graduate studies and, for students also interested in participating in the Fisk-Vanderbilt Master's to PhD Bridge Program, to [ccoca@fisk.edu](mailto:ccoca@fisk.edu)

- 6. 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.

The Test of English as a Foreign Language (TOEFL) or the International English Testing System (ELS) Certification Examination is required if the applicant's first language is not English; the minimum score for admission on the TOEFL internet-based version is 500 (paper-based test) or 61 (internet-based test), and the 5.5 on the ELS Certification Examination. The Educational Testing Service, Princeton, New Jersey, 08540, administers these tests in testing centers all over the world. Further information about the test and testing dates may be obtained at [www.ets.org](http://www.ets.org) or from the nearest U.S. Embassy, Consulate or United States Information Service, United States Educational Commission and foundations abroad and bi-national centers.

### ***International Students***

Fisk University welcomes applications from students from other countries. Applications should be sent three to six months before the registration date for each term. All applicants must meet Graduate School and departmental requirements as described in the Graduate Handbook. In addition, international students must submit an official academic transcript accompanied by official/or notarized English translations. These documents must be sent directly from the institution(s) attended. Personal copies are not accepted. All foreign (non-U.S.) transcripts must be translated and evaluated by the World Education Services (WES) [www.wes.org](http://www.wes.org) or Joseph Silny & Associates [www.jsilny.org](http://www.jsilny.org). This review, which is to be arranged by the applicant, must provide conclusive evidence that the applicant is the recipient of a degree comparable to the American bachelor's degree, which normally terminates 16 years of full-time study, 4 years of which are at the post-high school level. The official transcripts must show all post-high school work attempted, including grades or marks in each course, examination grades and standing in examinations and classes, or whatever other credentials are available to give a clear description of the student's academic accomplishments.



For ***International Students***, a certified financial statement indicating the applicant's ability to pay for the cost of education will be required before acceptance can be determined. An original/official bank statement no more than six months old at the time of registration must be submitted to the Graduate School in order to obtain the I-20 for the F-1 student visa. In certain cases, advance payment of tuition and fees may be required.

### **Recommended Deadlines:**

***General Acceptance Deadlines*** Completed applications are due by April 15<sup>th</sup> for the following fall term. Later applications are occasionally considered, but resource allocation (when available) may be completed by May 15<sup>th</sup>. 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. This notification is followed by a formal letter of acceptance from the Office of Admissions, Fisk University. However, after the time of acceptance, all communication with Fisk about the graduate program should be made through the Director of Graduate Studies for that particular program in order to streamline communication.

***For those accepted to programs in the Natural Sciences:*** The preliminary (aka 'informal') offer letter of admission for programs in the Natural Sciences comes from the Office of the Dean for Graduate Studies, co-signed by the Director of Graduate Studies for the relevant Master's degree program, and by any faculty member responsible for the extramural sources of funding for tuition and stipends. The co-signing of this offer by the student who has been accepted is then provided to the Office of Admissions, who provides the formal notification of admission to graduate studies at Fisk University

***For those accepted into Psychology/ Clinical Psychology:*** The Preliminary offer letter for admission comes from Dr. Sheila Peters, Program Director and outlines any tuition waiver support that may be available for the coming academic year. (Tuition Waivers are provided on a semester by semester basis). The co-signing of this offer by the student who has been accepted is then provided to the Office of Admissions, who provides the formal notification of admission to graduate studies at Fisk University.

***Deferral.*** A confirmed position in the Graduate School is only valid for the year in which it is offered. Whilst the Graduate School will do all it can to accommodate a deferral request, it may be that the institution is unable to guarantee a place for an upcoming year.

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

***General Orientation:*** Fisk University provides an orientation for all incoming graduate trainees to Graduate Studies at Fisk University and to their program, providing a perspective on the difference in academic maturity expected of graduate trainees when compared to the academic habits of undergraduate students.

Additional orientation sessions also are made available for individual programs whose start dates may differ. **Some of the graduate programs have ‘Bootcamps’, and relevant students will be apprised of those in advance.** Bootcamps occur between August 1<sup>st</sup> and the start of classes for the Fall Semester

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

- 1) Students in the Natural Sciences are required to take the first-year graduate course in Professional Skills.** [this course is open to trainees outside of the Natural Sciences but competing courses/work schedules may interfere with sustained participation].

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 models for both; and a detailed introduction to poster presentations. Other topics include how to be a mentee and mentor-mentee relationships and ‘compacts’, developing and using an evolving individual development plan, and fostering effective communication skills with your mentor and research colleagues, in both formal (lab meeting) and informal (conversations) settings. Other topics focus on social science understandings about stereotype threat, imposter syndrome, and the diversity of the scientific workforce and its cultures. To meet graduate trainee needs and introduce content when it is most valuable, this course occurs over both the Fall and Spring semesters.

### **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.

- Second Year Student **‘How to Select and Apply to PhD-Granting Graduate Programs Workshop’** is typically given in APRIL or AUGUST by Dean Limbird. Bridge trainees who have successfully transitioned to the PhD phase also contribute their insights about timeline for preparation of different graduate materials, which can vary in expectations program to program, and preparing for interviews.
- A course in **Scientific Writing for first year Graduate Students is taught by Lee E Limbird, PhD during the Spring semester (Biol 594/Literature Review).** This course, open to all graduate trainees, is required for biology and chemistry graduate trainees; This course has as its final grade assignment the development of the first chapter of a Master’s trainee’s thesis.
- A course on **Scientific Writing: Manuscript Development** is taught by Lee E Limbird, PhD during the Spring semester and is open to Master’s trainees in their second year (Biol 595/Manuscript Writing). This course, open to all graduate trainees,

is required for biology and chemistry graduate trainees. This course has as its final grade assignment the development of a draft of a manuscript based on thesis research that subsequently can be included as one or more chapters of the Master's thesis document.

Additional workshops are made available based on student requests, including: resume and CV preparation; how to apply to PhD-granting Programs, mock interviews for PhD-granting programs, etc.

**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. Tutoring to improve writing skills is also available. For graduate students, this guidance is provided by Dr Holly Hamby, Writing Center Director. To set up appointments with Dr Hamby, contact her at [hhamby@fisk.edu](mailto:hhamby@fisk.edu).

- 3) **Personal Counseling.** The expectations for independent learning and resourcefulness that underlie graduate training, in concert with the high academic demands, can bring multiple sources of stress to the surface. We advise reaching out for confidential conversations with counselors at your *earliest* moment of need. **Students can schedule a consultation via Ms. Tonyette Davis, 615-329-8861, at the Fisk counseling Center**, located on the 4<sup>th</sup> Floor /B wing of Shane Hall (<https://www.fisk.edu/services-resources/counseling-center>). A Student Counseling Handbook is available at the same link. The EMERGENCY contact is Dr. Sheila Peters, 615-497-2963, a licensed clinical psychologist who in emergency situations can identify the most appropriate clinical professional to meet a particular student's needs.

Occasionally, a student may be encouraged or even required to attend counseling sessions, advice intended with the student's best interests in mind. Like for Fisk undergraduates, when a graduate student is required to attend counseling sessions with a University counselor or one outside Fisk, proof of completion of this counseling will be required to be provided to the Dean of Graduate Studies, particularly if this counseling has corresponded to a leave of absence by a student.

## **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.

Admission to graduate study does not carry any implication concerning the certain award of financial aid. Financial assistance is available to some 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 or any outside 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.

### **Refund Policy**

Refunds of tuition are paid to students who have paid for their own tuition (i.e. not funded by a training program or tuition waiver mechanism) who withdraw from the University, depending upon the time of the semester when they withdraw. The date of withdrawal is considered to be the last day of attendance in class(es), signed by the faculty. No claim for tuition refund is considered until the appropriate form available in the Office of the Registrar has been completed and submitted with the necessary signatures.

Students dropping a course that results in a change in tuition and fee assessment are charged for the course on the same pro-rata schedule as for withdrawal.

A detailed policy statement on refunds for students on financial aid is available from the Office of Student Financial Aid. Refunds will be made to students who officially withdraw from Fisk University prior to the end of the semester as follows:

Prior to the first day of classes .....	100%
From the first day of classes until one week after the semester begins .....	80%
8 to 14 days after the semester begins .....	50%
15 days or more after the semester begins .....	0%

**Student Classification** – As a graduate student at Fisk University, you are expected to comply with all of the Students’ Standards of Conduct, as well as benefit from the Students’ Rights, that are in the Fisk University Student Handbook and posted on the Fisk Website at <https://www.fisk.edu/assets/files/f8/fisk-universitystudenthandbookandacademicplanner2015-2016.pdf>, pp 18-30.

**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 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 from Full-time student status:** A student may request to withdraw from their program of study at any time during a study period. In some cases, the student will ask to delay commencement or continuation of course studies normally to the start of the next study period. Students must notify the Dean of Graduate Studies in writing stating the reason for their request; it is assumed that this withdrawal will first have been discussed with the thesis supervisor as well as with the Director of Graduate Studies of the Program.

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.

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.

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 Director of their Graduate Studies Program, the Dean for Graduate Studies, the Provost, 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.

**Dismissal:** The Graduate School Council has the right to dismiss a student if the conditions for re-admittance are not met within the allocated period. Absence for more than two years may require the student to prepare a new study plan meeting new requirements as amended since the student's initial matriculation.

**Suspension:** The University reserves the right to withdraw students from the University in response to serious misbehavior or misconduct. 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.

## **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 to count toward their MA degree or take another course instead. HOWEVER, since all didactic 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.

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.

### **Behaviors Expected of our Graduate Trainees**

Graduate students must comply with all of the requirements for student behavior outlined in the Undergraduate Student Handbook. Of particular note, however, is that Fisk University does not condone and will not tolerate inappropriate conduct toward any individual based on a person's skin color, ethnicity, or national origin. It should go without saying that at an HBCU, racial misconduct is unacceptable and prohibited. Such racial misconduct includes but is not limited to jokes, pictures, inappropriate racial comments, slurs, objects, threats, physical assaults, intimidation, unequal application of policies, and unequal or biased grading. Our policy also encompasses offensiveness and misconduct that does not reach the level of racism but that is sufficiently severe and pervasive that it rises to the level of racial harassment or discrimination. All members of the campus community are encouraged to reflect upon the issue of racial misconduct as it directly affects the lives and conducts of others.

### **How to Formally Register Graduate Student Complaints**

The complaint process for graduate trainees at Fisk University closely mirrors that for undergraduate student complaints (<https://www.fisk.edu/services-resources/academic-excellence-student-performance/aesp-services/complaints>). This process also is outlined in the current version of the Graduate School Catalog.

#### ***For General Complaints:***

A Formal Graduate Trainee Complaint Form is available in the Office of the Graduate Dean. Different situations lead to the submission of the Complaint Form to different Offices.

***For Criminal Complaints:*** The completed form should be taken to the Office of Campus Safety in a sealed envelope addressed to: Director of Public Safety, CONFIDENTIAL.

***For Academic Complaints:*** The completed form should be taken to the Office of the Dean of Graduate Studies and labeled: Office of the Graduate Dean, CONFIDENTIAL.

The following process will then ensue:

The Graduate Dean will call together the trainee making the complaint and involved faculty as well as the Director of Graduate Studies for the program in which the graduate trainee is



enrolled. A goal of this meeting is to identify a solution(s) to the complaint and to clarify, simultaneously, any communication deficiencies that are contributing to the complaint. The Graduate Dean will summarize the conversation and decided-on next steps to those in attendance in the conversation and will also inform the Provost of the complaint and its process for resolution.

At the time of resolution, the Dean of Graduate Studies will prepare a summary memorandum to the student, faculty participants in the early conversation, and to the Dean. A copy will be maintained as a part of the graduate trainee's portfolio for their future use, if needed.

If the graduate trainee wants to pursue the complaint further after the attempted resolution by the Dean of Graduate Studies, then the graduate trainee is encouraged to report the complaint and response to date in writing to the Office of the Provost in a document taken to the Office of the Provost in a sealed envelope and labeled CONFIDENTIAL.

### ***SACSCOC Complaint Process***

Fisk University is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award Bachelor's and Master's degrees. The SACSCOC should be contacted only on matters related to any significant non-compliance with the Commission's standards, policies, or procedures related to accreditation. Information regarding the SACSCOC complaint process can be found on the SACSCOC website (<http://www.sacscoc.org/pdf/081705/complaintpolicy.pdf>)

### **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 a didactic course in which a student obtains an A. This 'balancing' cannot occur using by grades from Thesis Research or the Graduate Seminar in a particular discipline.
- 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. In some programs, when explicitly stated, the number of credits required may exceed 30 credits.

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) 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 the final copy of the thesis. Students have NOT earned their degree after their presentation of their thesis research but only after that presentation is followed by a completed thesis document.

Review of the final thesis document is no longer a responsibility of the Fisk University Library but is the responsibility of the Dean of Graduate Studies. An electronic copy of this thesis must be submitted to the Dean of the Graduate School after *all* corrections have been made in response to requests from the thesis committee. After review and approval of this document by the Dean of Graduate studies, the Registrar of Fisk University will be informed, electronically, that the graduate student has met all of the requirements for the Master's degree. A digital copy of the final approved thesis is also sent from the Dean of the Graduate School to the Fisk University Library and to [ccoca@fisk.edu](mailto:ccoca@fisk.edu) to assure enduring backup.

Students may wish to have a bound copy of their thesis for themselves or for their thesis mentor, which they can obtain by printing the document on bond or other paper, and then having it bound by FedEx Office or other services.

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

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

**Students have not officially received their MA degree until their corrected and the committee-approved thesis has been received electronically, reviewed and received final approval by the Dean of Graduate Studies.** The Dean of Graduate Studies will then forward that thesis document and all necessary forms to the **Registrar** as documentation that you have completed all that is necessary to be awarded a Master's degree from Fisk University. **The presentation of your thesis research in a defense seminar does not equate with receiving an MA degree.**

**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. Below, however, we offer a proactive timeline that will allow a Master's Candidate to complete their thesis document, oral defense, revised (if necessary) thesis, and approved thesis for submission (digitally) to the Fisk University Library in time for a May Commencement.

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. This form is available as a fillable document in the Appendix of the Graduate Student Handbook, a separate document updated annually for each incoming class.

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 for completion of all requirements for the degree (including submission of a committee-approved and Dean of Graduate Studies reviewed and approved thesis document), in order to permit completion of any corrections to the thesis document identified by the Thesis Committee at the time of the Public Defense. Date required posted by the Registrar each year.

Receipt obtained from the Dean of the School of Graduate Studies that your thesis is complete and has met all of the requirements of the Graduate School, which is submitted by the Graduate School Dean to the Registrar, as documentation that you have met all of the expectations and requirements for conferring the Master’s Degree

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

**Graduation Dates on the Transcript:** Deadline dates for materials are published at the beginning of each academic year on the Academic Calendar (available online) and strictly adhered to.

The Office of the Registrar will record graduation dates according to when all materials are completed. Three possible dates that may be recorded:

1. **The May graduation date** (whose deadlines are summarized above) is the only date associated with a Commencement Exercise.
2. **August completion date.** All materials must be completed and submitted appropriately by the date summer school grades are due.
3. **December completion date.** 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 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 Masters-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 Masters-to-PhD 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, 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 the Vanderbilt faculty liaisons for the Bridge: For Biology, Kathy Friedman, Professor of Biological Sciences and Christina Keeton, Program Manager IMSD Vanderbilt; for Chemistry and Materials Science, David Cliffler, Professor and Chair of Chemistry, Vanderbilt; for Physics, David Ernst; and for Astronomy, Kelly Holley-Bockelmann, Professor of Physics and Astronomy and Bridge Program Co-Director and Keivan Stassun, Professor of Physics and Astronomy. The Bridge Program Co-Director Arnold Burger, and Executive Director Dr. Dina Stroud also serve on the Committee as well as Fisk Research faculty Saumya Ramanathan and Steve Damo.

## **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. 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. 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 only be applied to their MA work; a B- *not* transfer for credit at the PhD level. Only a B or above can transfer toward PhD program didactic course credit.
- C. For the ***Chemistry track*** in the Bridge program, students will be expected during the Fall semester of their second year to participate in at least one 5-week research rotation in a Vanderbilt chemistry lab during one of the standard three rotation periods: (1) 1<sup>st</sup> Third of the Fall Semester, (2) Middle of the Fall Semester, (3) last third of the Fall 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

**Fisk-Vanderbilt Master's-to-PhD Bridge students are not automatically guaranteed admission to PhD-granting programs at 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. 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 three years. Requirements for admission to the Vanderbilt PhD program through the Fisk-Vanderbilt 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 B- or above 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 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. Pre-interview, typically in November or December of the second year of the Master's program, with the Director of Graduate Recruiting of the Vanderbilt PhD program of interest, e.g. Biological Sciences, Interdisciplinary Graduate Program (or any of the biologically focused graduate programs at Vanderbilt), Chemistry, Physics, or Materials Science. The purpose of the meeting 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 relevant Graduate Admissions Committee.
- E. **Complete the Vanderbilt application for the relevant PhD program by the December or January deadline of the year for which Fall admission is being sought.**

***Note:*** While in the Master's phase, student's academic and financial matters will typically be handled through Fisk University, though there are some cases where Master's students are paid directly through other funding sources (e.g. Fisk-Vanderbilt Master's to PhD Trainees may be paid directly via Vanderbilt). Please clarify for yourself where all of your financial statements and paperwork must be submitted.

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

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

**Kelly Holley-Bockelmann, PhD**  
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)

**Assistant Director**  
**Lauren Campbell, PhD**  
[Lauren.e.p.campbell@vanderbilt.edu](mailto:Lauren.e.p.campbell@vanderbilt.edu)

## **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 L. Nelms, PhD**

**Associate Professor of Biology and BMB**  
**Department of Life and Physical Sciences**  
**Office: Hughes-Kellogg Research Building**  
**Email: [bnelms@fisk.edu](mailto:bnelms@fisk.edu)**  
**Phone: 615-329-8625**

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

**Fisk Scientific Director**  
**Brian L. Nelms, PhD**  
**Associate Professor of Biology and BMB**  
**Department of Life and Physical Sciences**  
**Office: Hughes-Kellogg Research Building**  
**Email: [bnelms@fisk.edu](mailto:bnelms@fisk.edu)**  
**Phone: 615-329-8625**

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

#### *Into the Biological Sciences Program:*

**Kathy Friedman, PhD**  
**Professor**  
**Biological Sciences**  
**[kathy.friedman@vanderbilt.edu](mailto:kathy.friedman@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.m.Stroud@vanderbilt.edu](mailto:Dina.m.Stroud@vanderbilt.edu); [dstroud@fisk.edu](mailto:dstroud@fisk.edu); [dinamyersstroud@gmail.com](mailto:dinamyersstroud@gmail.com)**

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

### **Program Overview:**

The Biology Master's 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 Master's program in biology will be able to:

1. search the literature independently to become aware of advances in subject matter;

2. develop independent research questions in the research area of their thesis advisor
3. possess skills to test, interpret and critically analyze data presented in the literature and obtained in 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.





<b>SEMESTER</b>	<b>GRADUATE PROGRAM IN BIOLOGY REQUIREMENTS CHECKSHEET – YEAR 2</b>
-----------------	---------------------------------------------------------------------

<b>Fall of Second Year (≥9 credits)</b>	Fisk Courses - Title	Cr.	Vanderbilt Courses -Title	Cr.	Grade	
	BIOL590 – Journal Club	0.5	IGP Bioregulation Preview course (modules as desired/needed)	0-6		
	BIOL591 – Thesis Research	1-6				
	BIOL599 – Thesis Prep (if needed)	0-3	other	1-4		
	Other Requirements				Completed	
	Meet with Thesis Committee, submit summary					
	Apply for NSF Graduate Research Fellowship (if desired)					
	Apply to PhD programs at Vanderbilt and other institutions (many have Dec. 1 <sup>st</sup> deadlines)					
	Attend ABRCMS/SACNAS/or other professional conferences					

<b>Spring of Second Year (≥9 credits)</b>	Fisk Courses - Title	Cr.	Vanderbilt Courses - Title	Cr	Grade	
	BIOL590 – Journal Club	0.5	(as desired/needed)			
	BIOL592 – Thesis Research	1-6				
	BIOL595 – Manuscript writing course	1				
	BIOL599 – Thesis Prep (if needed)	0-3				
	Other Requirements				Completed	
	Meet with Thesis Committee, choose defense date, submit summary					
	Strongly consider presenting your work at major conferences					

<b>Summer of Second Year</b>	Fisk Courses - Title	Cr.	Vanderbilt Courses - Title	Cr.	Grade	
	BIOL599 – Thesis Prep	6				
	Other Requirements				Completed	
	Finalize thesis, turn in to committee two weeks before defense					
	Finish up experiments in lab, tie up loose ends in lab					
	Defend Thesis and make suggested changes to thesis document					

<b>OVERALL REQUIRE- MENTS</b>	Requirement:		<b>NOTES</b>
	At least 30 credits total		
	At least 24 didactic credits		
	At least 14 credits at Fisk		
	Up to 6 credits of Thesis Research		

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

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

Professional Skills for Graduate School Success Fall and Spring Semester, First Year [0.5 credits each semester].

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. [0.5 credits each semester]

The following Fisk graduate-level courses are options for students in Biology. All incoming students typically take Biochemistry I and Molecular Methods in their first semester. (Furthermore, other undergraduate courses at Fisk, not listed here, can be taken for graduate credit, if they are needed to fill a gap in course preparation. These courses may or may not have graduate course numbers and may include additional course expectations for graduate students.)

**NSCI 561 BIOCHEMISTRY I [3 Cr]: Fall, Saumya Ramanathan** A fundamental Biochemistry course designed for students to understand the nature of macromolecules with emphasis on proteins and their structure and function. The course uses several active learning pedagogical methods, Students learn about the organization of data and how to interpret biological data. Exams and quizzes are based on concepts and integration of methods with concepts, rather than on content memorization.

**NSCI 561L EXPERIMENTAL DESIGN AND DATA ANALYSIS [1 Cr.] Fall, Lee Limbird.** This class uses the review of primary papers to learn how to analyze data, identify appropriate experimental controls, and interpret data as well as design the 'next step' experiments. This course is taken by graduate students in Biochemistry I and takes content from the didactic course and examines it, with students as research design colleagues, to test new hypotheses. This course is available for all graduate students but *is required* for students funded by the R25 Bridges to the Biomedical Doctorate program.

**NSCI 562 BIOCHEMISTRY II [3 Cr]: Spring, Saumya Ramanathan.** Biochem II: is an advanced Biochemistry course designed to delve deeper into signaling processes and disease states and the contribution of macromolecules to diseases. The course uses primary literature and in class discussions to achieve student learning goals.

Substitutions for the courses below using other graduate content courses at Fisk University or at Vanderbilt University can 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 (3) and Lab (1). Fall semester. Brian Nelms.** This course is designed to familiarize students with some of the key techniques used in molecular biology, with a focus on DNA and RNA. Students will learn the

theory behind HOW and WHY certain techniques work and will get hands-on experience in using and troubleshooting these techniques. Students also learn and practice the concepts important for good experimental design and interpretation of results. The topics covered within the framework of a larger project include PCR, rtPCR, recombinant DNA, transgenic and homologous recombination strategies, electrophoresis, ligations, transformation, DNA sequencing, immuno-staining, and several others. The course projects differ slightly for each student and results will not already be known. This course requires independent thinking and creative troubleshooting.

**BIOL 540, 540 L: ESSENTIAL DEVELOPMENTAL BIOLOGY, 4 credits lecture (3) and Lab (1). Spring Semester. Brian Nelms.** This course addresses 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. The course introduces some of the model organisms used to study these processes, fosters multidisciplinary learning by incorporating elements of cell biology, molecular biology, and genetics. Discussions also touch on how an understanding of the processes that occur during embryonic development can inform everything from ideas about fighting cancer to theories on evolution.

**NSCI 370 and 370L INTRO TO CANCER BIOLOGY (4 credits) lecture (3) and Lab (1), Saumya Ramanathan:** This course provides an introduction to cancer and its hallmarks. Some of the topics in the class include: biology and genetics of cancer, tumor suppressors, oncogenes, and immunology and cancer. In addition, students will delve deeper into epigenetic mechanisms that cause cancer and therefore gain a deeper understanding of the “flow” of biological information and the central dogma.

**BIOL 581 AND 582, SPECIAL TOPICS IN BIOLOGY, 1-4 credits. (All Faculty)** This course is offered for first-year graduate students to provide training in literature searches, 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 is required.

**BIOL 590, GRADUATE BIOLOGY JOURNAL CLUB, 0.5 credits each semester.** 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 [0.5 credits each semester]. During the SECOND YEAR, each student will present at least two journal articles in Journal Club.

**BIOL591, 592 THESIS RESEARCH, variable credits (1-6 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/SCIENTIFIC WRITING, 1 credit.** This course focuses on basic tenets for clear and effective scientific writing and uses the preparation of Chapter 1 of

the thesis, review of the literature and rationale for the proposed thesis research, as the work product. This course is required for the Master's Program in Biology **Spring**.

**BIOL 595: Manuscript Writing, 1 Credit.** This course is targeted to second year students in the Master's program, and is intended to support the development of a manuscript for publication that also can serve as a chapter (or more than one chapter, if there are more than one manuscripts developed) for the final Master's thesis. Students funded by the R25 Bridge to the Biomedical Sciences are *required* to take this course

**BIOL 599, THESIS PREPARATION (1-9 credits; 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 8312. 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]

**CBIO 8313. Introduction to Modern Biological Microscopy.** This lecture course will provide students an introduction to modern microscopy and its biological applications. SPRING [2 credits]

**CBIO 8314. Basic Biological Microscopy.** This lecture course will present students with an introduction to microscopy and its applications to biology. SPRING [1 credit]

**CBIO 8320. 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 8330. 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 8331. 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 8341. 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 8345/NURO 8345. 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 8340. 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 8349. 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 4266. 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 major model organisms (including peas, bacteria, yeast, flies, worms, and mice), are studied in the context of the historical foundations of modern genetics. [3credits].

**BMIF 6310. 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]. **Please know that Fisk University now offers both a Bioinformatics I and II course that may be appropriate for an introduction to Bioinformatics (Bioinformatics I) and to coding and programming relevant to bioinformatics (Bioinformatics II)**

**IGP BioRegulation I: *Beginning in Fall 2019***, second year students will have the option of enrolling in specific modules of Vanderbilt's (IGP) Interdisciplinary Graduate Program's "Bioregulation" course. This is a course typically taken by first-year PhD students in the IGP that is broken into distinct modular domains:

- Biostatistics (offered in August before official start of the Fall semester)
- Macromolecular Structure and Function
- Genetics
- Gene Expression
- Cell Biology
- Signaling
- Cell Cycle and Chromosome Dynamics

These modules can be taken by students in the Bridge Program, and each will be given a Fisk course number

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. Biology students can 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) Bioregulation course, a fast-paced introduction to the breadth of content in the IGP course. Students can additionally apply directly to the Neuroscience program.

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.

All incoming students will participate, as well, in the Vanderbilt University IMSD (Initiative for Maximizing STEM Diversity) – PhD student-hosted sessions held bimonthly at Vanderbilt (typically Thursdays at 5pm) in order become acquainted with the culture of research-intensive discovery through student-hosted journal clubs and data meetings.

***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 in their first year to facilitate choosing a dissertation advisor and as part of the required didactic course work (BSCI 7390). At least two rotations are required for all students.

***Matriculation into the Interdisciplinary Graduate Program leading to PhD programs in diverse biomedically relevant areas.*** Exposure to the extensive graduate programs in biomedically relevant areas will occur informally via participation in the IMSD student-hosted sessions at Vanderbilt outlined above. 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)); these conversations can be facilitated by the Bridge Program Executive Director.



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

### **The Master's in Chemistry at Fisk University**

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

**Natalie Arnett, PhD**

**Associate Professor of Chemistry**

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

**Office: Room 306, Talley Brady Hall**

**Office Phone: 329-8781**

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

#### **FISK Contacts:**

#### **Chair, Department of Life and Physical Sciences**

**Natalie Arnett, PhD**

**Associate Professor of Chemistry**

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

#### **VANDERBILT Contact:**

**David Cliffl, PhD**

**Professor and Chair**

**Department of Chemistry, Vanderbilt University**

[d.cliffl@vanderbilt.edu](mailto:d.cliffl@vanderbilt.edu)

#### **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)

[dinamyersstroud@gmail.com](mailto:dinamyersstroud@gmail.com)

### **Admissions Criteria for the Master's in Chemistry-**

Admission to the Fisk University Master's 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 Master's 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 Master's 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 demonstrate the coursework and other required elements of the Chemistry Graduate Program.

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.

## **Research Mentor/ Primary Advisor**

The research mentor typically has been identified before matriculation in graduate school but should be selected no later than the latter part of the Fall semester of the first year. This person helps the graduate trainee in choosing courses, in conjunction with the Director of Graduate Studies in Chemistry, and adhering to chemistry regulations, while also serving as the Chair of the student's Master's Thesis committee.

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 both the Director of Graduate Studies of the Chemistry Program and 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 Fisk faculty members of the thesis

advisory committee should have the status or qualifications for a graduate faculty member at Fisk University. For students in the Fisk-Vanderbilt Masters-to-PhD graduate program, the thesis advisory committee includes a member of the Chemistry faculty at Vanderbilt. The thesis supervisor/mentor approves the Committee selection before faculty invitations are made. The advisory committee should meet *at least* once a semester, beginning in the Spring semester of the first year in order to monitor and enhance the research progress of the graduate student.

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. Each meeting is summarized in a document called "Summary of the Thesis Committee Meeting." This document not only assists the trainee, but also serves as a reminder to faculty of expectations set at the previous Thesis Committee meeting. It is the responsibility of the student to assure that these meetings occur.

### **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 preparation of the thesis document are provided in Graduate Student Handbook.

### **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).

### **Courses Relevant to the Chemistry Graduate Program 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 5010 – 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 5120 - 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 5210**

**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 5240**

**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 5330 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 5350 Statistic Thermodynamics**

SEMESTER	GRADUATE PROGRAM IN CHEMISTRY – Checklist					
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 593: Professional Skills/Grad Success	0.5				
	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				
	NSCI 594: Professional Skills II	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)						
<b>Hold First Thesis Committee Meeting BEFORE MARCH 1 of first Spring Semester</b>						
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 (mid-summer but no later than Fall classes beginning )						
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					
Prepare final thesis document as a PDF including the Committee Signature document as a face page, and submit to the Graduate School Office of the Dean						
OVERALL REQUIREMENTS	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					
Receipt of <i>committee-approved</i> Thesis (as pdf) and its Approval by Dean of Graduate Studies, forwarded to Registrar						

## 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 5140 (311)- Advanced Analytical Chemistry I  
 Chemistry 5150 (312)- Electrochemistry  
 Chemistry 5130 (313) – Advanced Analytical Chemistry II  
 Chemistry 5170 (314A)- Special Topics in Analytical Chemistry  
 Chemistry 5160 (315)- Separations

### (2) Biochemistry/Chemical Biology

Chemistry 5710 (224) – Bio-organic Chemistry\*  
 Chemistry 5720 (226)- Drug Design  
 Biological Science 2520 (220)- Biochemistry I  
 Chemistry 6250 (324)- Special Topics

### (3) Inorganic Chemistry

Chemistry 5010 (203) Inorganic Chemistry\*  
 Chemistry 5610 [inorganic] or 5620 [biological] (350) Materials Chemistry  
 IMS 5320 (320) Nanoscience

### (4) Organic Chemistry

Chemistry 5210 (220C\*) Organic Structure and Mechanism  
 Chemistry 5710 (224) Bioorganic Chemistry  
 Chemistry 5240 (223) Advanced Reactions  
 Chemistry 5220 (225) Spectroscopic Identification of Organic Compounds

### (5) Physical Chemistry

Chemistry 5320 (338) Quantum Mechanics\*  
 Chemistry 5330 (339) Statistical Mechanics Spectroscopy  
 Chemistry 5350 Statistical Thermodynamics  
 IMS 5320 (320) Nanoscience

### Other courses mentioned in memo...

Chem 6900 (301) Seminar (1 cr)  
 Chem 6901 (380) Introduction to Research (1 cr)

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 <b>NOT</b> allowed to register for Chemistry 220C, but are recommended to <b>AUDIT</b> 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) [1 cr]	Chemistry 6900 Seminar (1 cr)
Professional Skills in Graduate Training Success [1Cr]	Chemistry 6901 (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 5010)
Advanced Analytical Chemistry (CHEM 520)	Instrumental Analytical Chem (CHEM 5120)
Structural Chemistry (CHEM 530)	
Advanced Organic Chemistry (CHEM 535)	Chemistry 5210
Reactions of Organic Compounds (CHEM 538)	Chemistry 5240
Synthetic Organic Chemistry (CHEM 539)	
Advanced Physical Chemistry I (CHEM 545)	Chem 5350 Statistical Thermodynamics
Advanced Physical Chemistry II (CHEM 546)	
Molecular Spectroscopy (CHEM 547)	Spectroscopy (CHEM 5310)

## **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: [k.holley@vanderbilt.edu](mailto:k.holley@vanderbilt.edu)**

#### **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: [k.holley@vanderbilt.edu](mailto:k.holley@vanderbilt.edu)**

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

**David Cliffel, 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)**



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

**Overview and Learning Outcomes:** The Master's 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 Master's 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) also is 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	<i>Advanced Dynamics</i>
PHYS 542	<i>Non-Relativistic Quantum Mechanics</i>
PHYS 552	<i>Electromagnetic Theory</i>

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

Content	Required	Completed
<b>Physics Didactic Courses</b> <b>(including the three required PHYS courses:</b> 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>	24	
<b>Physics Research</b> †	6	
<b>Total Hours Required for Graduation</b>	30	
<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		

### 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.

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.

#### **Physics Program Research Mentor Faculty**

<b>NAME &amp; TITLE</b>	<b>PH. EXTENSION**</b>	<b>E-MAIL</b>
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. Collins is mentor for the terminal Master's degree)*

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

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

Dr. David Ernst, Vanderbilt University [david.j.ernst@vanderbilt.edu](mailto:david.j.ernst@vanderbilt.edu)

Dr. David Cliffel [d.cliffel@vanderbilt.edu](mailto:d.cliffel@vanderbilt.edu)

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

Dr. Keivan Stassun, Vanderbilt University [keivan.stassun@vanderbilt.edu](mailto:keivan.stassun@vanderbilt.edu)

Dr. Kelly Holley-Bockelmann [k.holley@vanderbilt.edu](mailto:k.holley@vanderbilt.edu)

## 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. 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.

### 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 8020)
	E&M II (PHYS 8021)
Quantum Mechanics (PHYS 542)	Quantum Mechanics I (PHYS 8030)
	Quantum Mechanics II (PHYS 8031)
	Statistical Mechanics (PHYS 8040)
	Graduate Seminar (PHYS 8000)
<b>Interdisciplinary Materials Science Track</b>	
Mechanics/Dynamics (PHYS 541)	Atomic Arrangements of Solids (MSE 6310)
E&M (PHYS 552)	Materials Chemistry CHEM 5610 (inorganic) or CHEM 5620 (biological)
Quantum Mechanics (PHYS 542)	Thermodynamics (PHYS 3200)
	Physics of Condensed Matter (PHYS 3640)
<b>Astrophysics Track</b>	
Mechanics/Dynamics (PHYS 541)	Mechanics/Dynamics (PHYS 8010)
E&M (PHYS 552)	E&M I (PHYS 8020)
Quantum Mechanics (PHYS 542)	Quantum Mechanics I (PHYS 8030)
	Statistical Mechanics (PHYS 8040)
	Radiative Processes (ASTR 8010)
	Stellar Astrophysics (ASTR 8030)
	Order of Magnitude (ASTR 8001)
	Graduate Seminar (PHYS 8000)
Molecular Spectroscopy (CHEM 547)	Spectroscopy (CHEM 5330)
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.

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

<b>FIRST YEAR, FALL SEMESTER</b>	<b>CREDITS</b>	<b>SEMESTER TAKEN</b>	<b>GRADES</b>
<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>	0.5		
<b>Total Credits Earned in semester</b>	<b>10.5</b>		
<i><b>Choose Faculty Research Mentor</b></i>			
Faculty Name:	Faculty Signature	Date	
<b>FIRST YEAR, SPRING SEMESTER</b>			
<b>Professional Skills for Grad Study Success</b>	0.5		
<b>VU 8020-Electrodynamics I at Vanderbilt (based on performance in Fisk-prepared pretest) OR Fisk PHYS 552 E&amp;M</b>	3		
<b>VU 8030- 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		
<b>PHYS 584 Graduate Physics Seminar (Journal Club)</b>	1		
<b>Total Credits Earned in semester</b>	<b>10.5</b>		
Cumulative Credits Earned that can count toward graduation	21		
<i><b>Establish Advisory Committee</b></i>			
Faculty Name:	Faculty Signature:	Date:	
Faculty Name:	Faculty Signature:	Date:	
Faculty Name:	Faculty Signature:	Date:	

<i>Have first meeting of Thesis Committee by Mar 1</i>		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	24		
<b>SECOND YEAR, FALL SEMESTER</b>			
<b>VU Physics 8020: Electrodynamics I, OR VU Physics 8030: Quantum Mechanics I, OR VU Physics 305 Classical Mechanics, OR VU Physics 8040: 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</b> (Journal Club, encouraged but not required)	0		
<b>PHYS 591 Research</b>	3.0[these three counts 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>33</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>36</b>		
<i>Have Spring Thesis Committee Meeting- this meeting should lead to 'permission to prepare MA thesis' documentation</i>		Date:	

**Recommended Curricular Pathway for Fisk-Vanderbilt Master's-to-PhD Program in Physics/Astrophysics**

**BALANCE SHEET/Checklist for Tracking Progress**

	<b>CR. HR.</b>	<b>SEMESTER TAKEN</b>	<b>GRADE S</b>
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>		
PHYS 541 ADV. Dynamics	3		
VU PHYS 8030 – Quantum Mechanics, on advice from advisor. Can be replaced with Phys 542	(3)		
Professional Skills for Grad Study Success	0.5		
VU ASTR 8001 – Order of Magnitude Astrophysics	0		
<b>Total Credits Earned in semester</b>	<b>9.5 (-12.5)</b>		
<i>Choose Faculty Research Mentor</i>			
Faculty Name:	Faculty Signatur e	Date	
<b>FIRST YEAR, SPRING SEMESTER</b>			



<b>Professional Skills for Grad Study Success</b>	0.5		
<b>VU 8020-Electrodynamics I at Vanderbilt (based on performance in Fisk-prepared pretest) OR Fisk PHYS 552 E and M</b>	3		
<b>Fisk PHYS 542 Nonrelativistic Quantum Mechanics, on advice from advisor –can be replaced with VU PHYS 8030</b>	3		
<b>VU ASTR 8001 – Order of Magnitude Astrophysics</b>	0		
<b>Fisk PHYS 592 Research</b>	3		
<b>Total Credits Earned in semester</b>	<b>9.5</b>		
Cumulative Credits Earned that can count toward graduation	19-22		
<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 BEFORE March 1<sup>st</sup> of first year</i></b>		Date:	
<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 PHYS 8030: Quantum Mechanics I, OR VU Physics 305 Classical Mechanics, Or VU PHYS 8005, Math Methods</b>	3		
<b>VU ASTR 8001 – Order of Magnitude Astrophysics</b>	0		
<b>VU ASTR 8040 – Structure and Dynamics of Galaxies</b>	3		
<b>PHYS 583 Graduate Physics Seminar</b>	0		

(Journal Club, encouraged but not required)			
<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>28</b>		
<i>Have Fall meeting of Advisory Committee</i>		Date:	
<b>SECOND YEAR, SPRING SEMESTER</b>			
<b>VU ASTR 8010 – Radiative Processes in Astrophysics, or VU ASTR 8050 – Large Scale Structure, or VU PHYS 8040 Stat Mech, or VU PHYS 8020 – E+M</b>	3		
<b>VU ASTR 8001 – Order of Magnitude Astrophysics</b>	0		
<b>PHYS 599 Thesis Preparation</b>	0		
<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>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:	

## **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: 615-329- 8575**

**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.

### **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.

### **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\*

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.

## **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.

*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

## **Details of the MA in General Psychology Program at Fisk University:**

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

### **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.

**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.*

### **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. The suggested outline for the Thesis document in Psychology is provided in the Graduate Student Handbook

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#### Timeline for Thesis

<b>Activity</b>	<b>Responsible Parties</b>	<b>Deadline</b>
<b>Proposal Development</b>	<i>Student</i>	Spring of 1 <sup>st</sup> year
<b>Selection of Thesis Committee</b>	<i>Student and identified faculty</i>	No later than spring of 1 <sup>st</sup> year
<b>Proposal Meeting</b>	<i>Student and Thesis Committee</i>	No later than end of spring semester of 1 <sup>st</sup> year
<b>Submission of proposal to IRB</b>	<i>Student, Thesis Advisor</i>	Within thirty days after successful proposal meeting
<b>Data Collection</b>	<i>Student</i>	Fall Semester of 2 <sup>nd</sup> year
<b>Approval of Chapters 1-3</b>	<i>Student, Thesis Committee</i>	By the end of fall semester of 2 <sup>nd</sup> year
<b>Submission of Forms</b>	<i>Student, Thesis</i>	December 1

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<b>for Graduation</b>	<i>Committee</i>	
<b>Data Analysis</b>	<i>Student, Thesis Committee</i>	End of January of 2 <sup>nd</sup> year
<b>Completion of Thesis Draft</b>	<i>Student, Thesis Committee</i>	March of 2 <sup>nd</sup> year
<b>Mock Orals</b>	<i>Student</i>	March
<b>Orals</b>	<i>Student</i>	April
<b>Approved Thesis</b>	<i>Student</i>	April

**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.

**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.

## **VI. Graduate Programs in the Social Sciences (the Graduate Program in Sociology is inactive for the 2019-2020 Academic Year)**

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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

Sociology (Currently Inactive): Shirley Rainey-Brown, PhD

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

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

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## Graduate Studies Faculty

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