

TO: Dr. Timothy Boosinger
Provost & Vice President for Academic Affairs

THROUGH: Dr. George Flowers *George T. Flowers*
Dean, Graduate School

THROUGH: Dr. Nicholas Giordano *Nicholas Giordano*
Dean, College of Sciences and Mathematics

FROM: Dr. Jason Bond *Jason Bond*
Chair, Department of Biological Sciences

DATE: October 13, 2016

SUBJECT: Proposed Pre-Professional Option in the M.S. in Biological Sciences (Non-Thesis).



We request that the following proposal be added to the Board of Trustees' agenda for their Nov.18, 2016 meeting.

Program Purpose and Description:

The proposed Pre-Professional Option in the M.S. in Biological Sciences (Non-Thesis) will provide students with a broad graduate experience, enhancing their knowledge base of biological phenomena and processes, that will improve their credentials for application to medical, dental, optometry, physician assistant, and other healthcare professional programs. This training will insure more of our graduates will be placed in fields essential to the biomedical and health needs of the state and beyond.

Justification for Request:

Many previous Biological Sciences MS-NT students have, in fact, been students with the goal of getting into a health related professional program. The proposed new option will allow us to service a greater number of students with these specific vocational goals and provide them with directed guidance and feedback to raise their competitiveness for acceptance into health-related professional schools. Additionally, having a distinct title for this targeted option will raise the prominence and prestige of the MS-NT degree program (which has been historically successful in placing our graduates). Finally, having a titled option with the specified outcomes will allow us to recruit more underrepresented students, who tend to have very career oriented goals in health related fields, into our graduate program.

The proposed option fulfills Priority 1 of the AU Strategic Plan (i.e. Enhance Student Success and Diversify Enrollment). This option is directly targeted to increase the students' competitiveness for acceptance into an advanced health profession program which is central to the students' future interests and careers. Additionally, it will provide a "middle-step" opportunity for underrepresented groups across the state to come to AU to gain a more comprehensive biological background to enhance their probability of being accepted into a professional school program.

The incoming cohort of students shares a common major professor (the Coordinator of the degree program) and faculty committee members (selected from a standing committee of graduate faculty). Students also consult with the Director of the COSAM Pre Health Professions Program and COSAM advising personnel about the professional school application process. Thus, students receive standardized, professional advising. Instead of a final oral exam given by the student's individual committee (the current practice), students in the cohort would take a common final written exam, graded by a common rubric. Students are also required to take two semesters of Biomedical Sciences Seminar, which will build a cohort experience and enhance their critical thinking skills in assessing and understanding primary biomedical research literature. Standardization of the administrative and evaluative aspects of the degree program will allow better consistency for the students as well as better assessment of the effectiveness of their preparation. It will allow a smaller number of faculty to prepare a greater number of students for entry into professional schools.

Surveying SEC universities, only Mississippi State University offers a similar degree program. The only program listed for Alabama is the University of Alabama at Birmingham Master of Science in

Biomedical and Health Sciences (<https://apps.aamc.org/postbac/#/index>), which caps enrollment at 25 students for the 11-month program. The new Auburn University program will accept students from other institutions (especially HBCUs), but the target group will be Auburn University undergraduates who need to improve their academic and non-academic qualifications to apply to doctoral and allied health professions programs. Maximum anticipated enrollment is 30 students for the two-three semester program. There were approximately 60 first-year dental school seats, 585 first-year medical school seats, 50 first-year optometry school seats, 278 first-year pharmacy school seats and 120 physician assistant program seats and 190 veterinary medicine seats for the entering classes of 2015 at Alabama professional schools plus an almost unlimited number of seats in allied health programs here.

State Need: Sixty-two Alabama counties are officially designated as completely or partially "Health Professional Shortage Areas," according to Linda Jackson, communications specialist with the University of Alabama's Rural Health Leaders Pipeline. There is a severe shortage of physicians in rural communities, and the primary health care providers who are there are aging, so Alabama will need physicians, doctors, and other health professionals to replace them soon (www.gadsdentimes.com/article/20150908/News/603234244).

Employment Opportunities: There are a multitude of studies and analyses that document the need for more highly trained individuals in the health care professions nationwide (see links below). The Association of American Medical Colleges in 2015 projected "a shortage of between 46,000-90,000 physicians by 2025". The study, the first comprehensive national analysis that takes into account both demographics and recent changes to care delivery and payment methods, projects shortages in both primary and specialty care, with specialty shortages particularly acute. (<https://www.aamc.org/newsroom/newsreleases/426166/20150303.html>)

Student Demand – Enrollment Projections: 30 students/year

Resource Requirements: The Coordinator for this program will receive one month of summer salary and the faculty who serve on the students' committees and are involved in grading the final written examination as well as assessing the degree option will be compensated at the discretion of the Department Chair. One semester/year of graduate assistantship will be awarded to a PhD graduate student who will administer the exit exam in outgoing semesters, maintain and update the test bank, as well as administer the assessment rubrics.

Recommendation:

We recommend that the proposed **Master of Science, Non-Thesis, Pre-Professional Option** be approved by the Offices of the Provost and the President and be forwarded to the Board of Trustees and the Alabama Commission on Higher Education for review and approval.

Supporting links:

New kind of medical school comes to Alabama with hopes of reducing rural doctor shortage (http://www.al.com/news/index.ssf/2015/05/new_kind_of_medical_school_com.html)

Having trouble finding a primary care doc? Here's what medical schools are doing about it. (https://www.washingtonpost.com/lifestyle/magazine/what-medical-schools-are-doing-about-a-looming-shortage-of-doctors/2015/10/27/13d27282-66c8-11e5-9ef3-fde182507eac_story.html)