**Advanced Research training In SciEnce for MDs (ARISE-MD)**

**Doctor of Philosophy (PhD)**

The **Advance Research training In SciEnce for MDs (ARISE-MD) PHD** at UAB is a physician scientist training pathway designed to prepare residents and fellows at UAB for the roles of researchers, scholars and leaders capable of making a substantive contribution to academic medicine. The ARISE-MD pathway is designed to build on previous training at the undergraduate medical education level obtained from a nationally accredited school of medicine. The multi-year program offers future clinician-scientists a pathway that combines clinical training with advanced research training in multiple arenas of basic science leading to a PhD degree from one of eight Graduate Biomedical Science (GBS) PhD themes. It is through immersion in a research project that ARISE-MD students gain the knowledge and skills required for the successful completion of a dissertation. Residents or fellows from any graduate medical education (GME) training program at UAB can apply to the ARISE-MD.

### PROGRAM OUTCOMES

* Synthesize historical and philosophical knowledge as a foundation for the design and conduct of research that generates new knowledge
* Critically appraise and synthesize evolving knowledge as a foundation for a scientific program of research
* Generate knowledge that informs the design, implementation, and evaluation of interventions that contribute to the advancement of science and facilitate optimal patient, population, and health systems outcomes
* Conduct investigations based upon scientifically sound conceptual and methodological decisions about research designs, measures, and analytic methods
* Demonstrate scientific integrity in the design, conduct, and dissemination of research
* Participate in the mentoring of the next generation of physician scientists

### ARISE-MD MINIMUM ADMISSION REQUIREMENTS

* A Doctor of Medicine (MD) from a nationally accredited institution, equivalent to that in the UAB School of Medicine
* Eligibility for licensure as a physician in Alabama
* Active resident or fellow matched at UAB through the UASOM Graduate Medical Education Office (**ERAS Application and Match Acceptance**)
* A personal statement that evidences prior research experiences, congruence between the applicant’s research interests and chosen mentor’s research, and future endeavors as a physician scientist in academic medicine
* A current CV or NIH Biosketch
* Two references from individuals with expertise to comment on the applicant’s capability for research and scholarship (e.g., research mentor and UAB Residency or Fellow Chair)
* A personal interview with an ARISE-MD advisory member or designee

# ARISE-MD Admission Application Instructions

### Applying for Admission

Interested applicants can apply to the ARISE-MD training pathway through the [UAB Graduate School.](https://www.uab.edu/graduate/admissions) It is extremely important that you carefully read all directions to ensure successful submission of your application. Successful application submission relies on applicants to carefully complete all questions and compliance with the directions.

* **UAB Graduate School Application Process**
* Submit an application to ARISE-MD through the [UAB Graduate School](https://www.uab.edu/graduate/admissions)
* Choose the term of matriculation (Summer, Fall, Spring)

### Applicant Information Section

* Biographic Information
* Contact Information
* Race and Ethnicity
* Other Information

### Academic History Section

* Colleges Attended (Undergraduate, Medical School)
* College Transcripts (**COLLEGE TRANSCRIPTS ARE NOT REQUIRED**)

### Supporting Materials Section

* **References**
	+ Two references from individuals with expertise to comment on the applicant’s capability for research and scholarship (e.g., research mentor and UAB Residency or Fellow Chair)
* **Program Materials Section**
* **Curriculum Vitae (CV)/NIH Biosketch**
	+ Employment or Current Residency/Fellowship position
	+ Include the Organization, Supervisor, Dates and Details, this section is a very important part of your application that is required for consideration
* **Personal Statement**
	+ The personal statement should include the following: (a) prior research experiences and how those experiences have influenced a desire to pursue a PhD through ARISE-MD. (b) The GBS Theme of choice to pursue the ARISE-MD PhD and UAB research mentor(s) with whom collaboration in the conduct of research and scholarly endeavors will take place. (c) Discuss how the ARISE-MD pathway will enhance long-term career goals as a physician scientist in academic medicine.

**These documents are REQUIRED and must be uploaded**

### IT IS THE APPLICANTS RESPONSIBILITY TO MONITOR THE STATUS OF

### THEIR APPLICATION ON A REGULAR BASIS

* **Application Decision and Other Documentation**
* **Matriculation to ARISE-MD**
	+ Applicants will matriculate to ARISE-MD at the beginning of the accepting term
* **Letter of Employment and Financial Responsibility**
	+ Documentation from the department/division indicating employment and acceptance of the financial responsibility for all tuition and fees along with sustainability of resident/fellow stipend while immersed in PhD training
* **Letter of Appointment**
	+ A yearly letter of appointment will be generated that details the ARISE-MD expectations and requirements to maintain good standing status

## Who can I contact for help?

### For questions regarding the UAB Graduate School application process:

### UAB Graduate School

### Phone: 205.934.8227

### Email: gradschool@uab.edu

### For questions regarding UAB ARISE-MD:

**Randy L Seay, MA, MPA, MPH**

Associate Director, Physician Scientist Development

rseay@uab.edu or physci@uab.edu

# COURSE REQUIREMENTS

### Chronological Benchmarks of Success

* Completion of GBS theme-based coursework prior to comprehensive examination and qualifying examination – takes approximately 1 ½ to 2 years full-time
* Creation of Thesis Committee and Dissertation Proposal – Must consist of five to six Graduate School approved faculty related to research focus (i.e., Mentor, Advisor, Assoc. Dean of Physician Scientist Development, and selected members)
* Comprehensive Examination and Qualifying Examination – a standard for all PhD students regardless of their area of study. This is normally taken during the third semester of full-time study
* Dissertation Defense – consists of a private examination by the dissertation committee and a public presentation of the dissertation research to colleagues in the field of research

### ARISE-MD: UAB GBS Themes and UAB Graduate School

### The ARISE-MD offers a broad curriculum that can be tailored to meet your research and scientific interests. You will enter the ARISE-MD with a theme affiliation, whereupon the theme-based coursework and laboratory experiences are designed to prepare you for a career in academic medicine. You are required to be registered for 9-semester hours per term until you satisfied the UAB GBS Theme and UAB Graduate School requirements of the PhD degree

### TIME TO DEGREE

As ARISE-MD students matriculate with the equivalent of a [previously earned master’s degree,](http://catalog.uab.edu/graduate/completionofadegree/#doctoraldegreerequirementstext) the timeframe to completing the ARISE-MD PhD usually requires three years of training (academic and research) and is individually tailored to your interests and needs by your advisor and a graduate committee chosen by you and your mentor.

## Course Hour Requirements (minimum of 51 credit hours)

* Completion of 27 semester hours of coursework prior to admission to candidacy
	+ A minimum of 15 hours of coursework directly related to the discipline
	+ No more than 6 hours of non-dissertation research (i.e., PSDO 798) can be counted
	+ No more than 6 hours of labs, seminars, directed study credits, or GRD and CIRTL courses can be counted
* Completion of 24 semester hours of research-based work over a minimum of two semesters in candidacy which can be designated as either
	+ A minimum of 24 semester hours in 799 dissertation research **OR**
	+ A minimum of 12 semester hours in 799 dissertation research AND, either during or before candidacy, 12 semester hours in other appropriate research-based coursework which has been approved by the graduate student’s program

### All ARISE-MD students are exempt from the fall semester GBS [core curriculum](http://www.uab.edu/gbs/home/requirements/coursework/core) (GBS 707, 708, 709). In lieu of the core-courses for the fall semester, it is required that you take the responsible conduct of research course (GRD 717) and an approved biostatistics course (see ARISE-MD training plan). For spring semester of Year 1, you will begin selecting modules from among your selected GBS theme ([four 1-month modules are required this term](https://www.uab.edu/gbs/home/requirements/coursework)).

### A grade of B or higher is required in all courses. Students who make less than a B average must retake and pass the relevant course in the subsequent year. Students who fail more than three courses during the first year will be dismissed from the program. An appeals process is available.

## Research Hours

### Concurrent with first-year coursework, you will begin your practical research experience in your mentor’s laboratory. During this first year of your laboratory requirements and until you have passed your qualifier exam, you will register for an adjusted number non-dissertation hours (PSDO 798)

### Once you have passed your qualifying exam and admitted to candidacy, you will register for an adjusted number of dissertation hours (PSDO 799) per semester until you have satisfied the UAB GBS Theme and UAB Graduate School requirements of the PhD degree.

### Both PSDO 798 and PSDO 799 are a Pass/Fail course, which includes a semester-based assessment before the grade is entered and reflected in BlazerNET.

## Advance Courses

After Year 1, at least [three advanced courses](https://www.uab.edu/gbs/home/requirements/coursework) are required for all ARISE-MD students. Typically, advanced courses are 3 credit hours and must have a letter grade (no pass/fail). They must be completed prior to scheduling your dissertation defense. Only 700-level courses count toward this requirement. While 500- and 600-level courses may be taken, they cannot count towards the advanced courses requirement.

## Journal Club and Seminars

You will also participate in [seminars and journal clubs](https://www.uab.edu/gbs/home/requirements/coursework) that teach assessment of scientific literature and how to critically assess experimental design and responsible conduct of research. Electives outside of your primary theme may also be taken but must be approved by the GBS Theme Director and Assoc. Dean of Physician Scientist Development.

**Thesis Committee Creation and Progression**

A graduate study committee is formed to guide the student in a program of courses, seminars, and independent study designed to meet the student’s research focus needs and development.

* Set up your committee no later than November of Year 1.  Your mentor, advisor, and Assoc. Dean of Physician Scientist Development must serve on your committee in addition to two or three faculty closely related to your research project. Your mentor is expected to serve as chair of the committee, and one member must have expertise outside your area of research.
* Your first committee meeting must take place no later than April of Year 1. After your first initial meeting, you must meet with your committee every 6 months thereafter until the PhD requirements have been met
* Committee Meeting forms ([Student, Mentor, Advisor](https://www.uab.edu/gbs/home/requirements/committee-requirements)) are required for each meeting and must be submitted to the Physician Scientist Development Office no later than 2 weeks from the scheduled committee meeting

**Preparation and submission of an NIH NRSA or Equivalent External Funding Application**

ARISE-MD students are required to submit an [NRSA Individual Fellowship](https://www.uab.edu/medicine/mstp/current-students/f30-fellowship-instructions) or equivalent external funding application while in a GBS Theme.

**Qualifying Exam (QE) and Admission to Candidacy**

All ARISE-MD students in a GBS Theme are required to pass a QE prior to being admitted to candidacy. It must be scheduled no later than the fall term of your second year. Students must have successfully completed GRD 717 in order to be eligible for Admission to Candidacy.

Before the scheduling the QE, you must have at least two committee meetings to get approval of the planned topic of your thesis research. The QE has both a written and oral component. You will present a written research proposal and orally defend it. The GBS Office QE procedures can be found on at <https://www.uab.edu/gbs/home/requirements/qe>

* **Written Exam**
* The topic will be your proposed thesis research, which will follow the NIH NRSA predoctoral fellowship application.
* Once the document is formatted correctly, you must email a draft of the proposal to each committee member no later than 2-weeks prior the QE defense date. It is the responsibility of the committee members to notify you and your mentor if the written proposal is either acceptable or unacceptable prior to the oral defense meeting.
* **Oral Defense**
* During the oral phase of the QE, committee members will ask questions that extend beyond the scope of the proposal to gauge your general comprehension and critical thinking skills. Following the defense, committee members may recommend corrections to the written proposal; you must revise and resubmit your proposal to the committee within a month of the oral defense.

## COMPLETION OF THE ARISE-MD PHD

In order to complete the ARISE-MD PhD, each student must notify both the GBS Theme Administrator and the Associate Dean for Physician Scientist Development **at least 3 months prior to defending the dissertation.** The following documents the process for completing your PhD.

* Permission from your committee members to begin to write the dissertation
* When ready to defend your dissertation
* Submit a completed Application for Degree form; it must be submitted no more than 3 weeks into the semester you plan to graduate.
* Set a date, time, and place for both your private and public defense
* Notify both the GBS Theme Administrator and Assoc. Dean of Physician Scientist Development
* Two weeks before you scheduled private defense, you must submit an electronic copy to each committee member for review. A delay in this process may prevent you from defending your research on the scheduled date
* Obtain approval forms from the Graduate School no less than 2 weeks before your public defense. These forms are to be signed off on by your committee, indicating approval for awarding of degree, after your private defense.
* No later than 10 business days after your public defense, submit your final, completed dissertation as a single PDF. This is done online.
* Complete the Survey of Earned Doctorates

**Course Plan: Traditional Track (9 Semester Hours)**

**ARISE-MD 2018-2019 Academic Requirements (SAMPLE)**

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| **Year 1** |
| **Fall** | **Hours** | **Spring** | **Hours** | **Summer** | **Hours** |
| Journal Club | 1 | Modules (4) | 8 | Scientific Writing | 2 |
| GRD 717 | 3 | Journal Club | 1 | Theme Course | 2 |
| Theme Mtg | 1 | Theme Mtg | 1 | PSDO 798 | 5 |
| Biostats | 3 | PSDO 798 | 1 | Seminar | 1 |
| PSDO 798 | 1 | Seminar | 1 |  |  |
| Seminar | 1 |  |  |  |  |

* **Qualifying Exam should take place by the end of the Summer Term**

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| **Year 2** |
| **Fall** | **Hours** | **Spring** | **Hours** | **Summer** | **Hours** |
| Advance Courses | 3 | Advance Courses | 3 | PSDO 799 | 9 |
| Journal Club | 1 | Journal Club | 1 | Seminar | 1 |
| Theme Mtg | 1 | Theme Mtg | 1 |  |  |
| PSDO 799 | 4 | PSDO 799 | 4 |  |  |
| Seminar | 1 | Seminar | 1 |  |  |
|  |  |  |  |  |  |

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| **Year 3** |
| **Fall** | **Hours** | **Spring** | **Hours** | **Summer** | **Hours** |
| Advance Courses | 3 | Journal Club | 1 | PSDO 799 | 3 |
| Journal Club | 1 | Theme Mtg | 1 | Defense |  |
| Theme Mtg | 1 | PSDO 799 | 7 |  |  |
| PSDO 799 | 4 | Seminar | 1 |  |  |
| Seminar | 1 |  |  |  |  |
|  |  |  |  |  |  |