MICROBIOLOGY THEME
PROPOSAL and PROGRESS REPORT GUIDELINES

The proposal will follow the basic guidelines for an NIH predoctoral (F31) fellowship. Although additional components are required for submitting an F31, this proposal can serve as the basis for preparing a complete application. The necessary information for preparing your Qualifying Exam proposal is contained within this document.

The full description of the NIH program and the guidelines, for when you're ready to submit the real thing, can be found at https://grants.nih.gov/grants/how-to-apply-application-guide/forms-d/fellowship-forms-d.pdf. Example F31 applications can be found at https://www.niaid.nih.gov/grants-contracts/sample-applications#f31. One of these is by a former UAB student.

Note that the NIH guidelines (pdf link) describe the entire process for electronic submission of the application (although this process has now changed and seems somewhat easier). The actual guidelines for writing the research proposal constitute only 3 of the 99 pages of this document and begin on p. F-61 (and good luck with figuring that out by looking at the Table of Contents). The deadlines for applying to NIH are April 8, August 8, and December 8; note that you must be admitted to candidacy to apply. There are also other agencies to consider, so look around. And remember, submission of an individual fellowship application to an outside agency will get you $500 from the Graduate School - https://www.uab.edu/graduate/incentive-program-for-individual-fellowship-applications

IMPORTANT POINTS

- As a student, you are in training and your research proposal is part of that training. It is unlikely that you will win a Nobel Prize, cure a disease, or develop a major technological breakthrough during your graduate career. While your project may be part of a larger project that is ongoing in your lab, your proposal should focus on discrete questions and present plans that can be accomplished within a reasonable timeframe. You do not need to describe everything you think you will do in the next three to four years. You should present a plan that you expect you can accomplish within one to two years. It will provide a sufficient basis for your project and for conducting the Qualifying Exam.
- Because the proposal is on the student's research topic, it is expected that the mentor will have some input into its initial development. However, the development and writing of the proposal is the responsibility of the student. The mentor and committee should provide only general guidance and advice during the writing of the proposal.

COMPONENTS REQUIRED:

	Preliminary Meeting	Qualifying Exam	Admission to Candidacy	Subsequent Meetings
Biographical Sketch	x	x	x	x
Career and Training Goals	x	x	x	x
Specific Aims / Abstract	x	x	x	x
Research Plan		x	x	
Progress Report			x	x

A. FORMAT SPECIFICATIONS FOR ALL DOCUMENTS (from NIH, with additional comments in italics)
A1. Font

- Use Arial, Helvetica, Palatino Linotype or Georgia typeface, a black font color, and a font size of 11 points or larger. A Symbol font may be used to insert Greek letters or special characters; the font size requirement still applies.
- Type density, including characters and spaces, must be no more than 15 characters per inch.
- Type may be no more than six lines per inch. *The type density requirements are usually met with standard single spacing, use of the above fonts, and no page reductions.*
- Print must be clear and legible.

A2. Paper Size and Page Margins
- Use standard size (8 ½" x 11") sheets of paper.
- Use at least one-half inch margins (top, bottom, left, and right) for all pages.

A3. Page Formatting
- Use only a standard, single-column format for the text.
- The application must be single-sided and single-spaced.
- Consecutively number pages throughout the application. Do not use suffixes (e.g., 5a, 5b). (Note that for a real F31, pdfs are uploaded and numbered for you).
- Do not include unnumbered pages.

A4. Figures, Graphs, Diagrams, Charts, Tables, Figure Legends, and Footnotes
- A smaller type size is acceptable but it must be in black ink, readily legible, and follow the font typeface requirement.

A5. Grantsmanship
- Use English and avoid jargon.
- If terms are not universally known, spell out the term the first time it is used and note the appropriate abbreviation in parentheses. The abbreviation may be used thereafter. *Just because a term is universally known to people in your lab doesn't mean it's universally known to others. Spell it out.*

B. COMPONENTS REQUIRED FOR THE PRELIMINARY MEETING AND QUALIFYING EXAM

Assemble components in the order listed into *a single pdf* to be emailed to your committee. Number all pages, starting with the Face Page. Asterisks (*) indicate components that must be submitted for the Preliminary Meeting.
All components must be submitted for the Qualifying Exam.

***B1. Face Page – use the Face Page form (on Micro website)**

***B2. Biographical Sketch – you will use the NIH BioSketch form. There are links to the form, instructions, and samples at https://grants.nih.gov/grants/forms/biosketch.htm under "Fellowship only". *The form is on the Micro website with information specific for our use.* This section is limited to 5 pages (probably won't be an issue at this point).**
- **Education/Training**

  List all degree programs beginning with baccalaureate or other initial professional education, concluding with the present position. Include all dates (month (mm) and year (yyyy)) of degrees received or expected. *Yes, you should include your current position and list an expected date of graduation. It will be a target to aim for and can be continually updated (shortened, we hope).*
- **Personal Statement**

Briefly describe why you are well-suited for the project, e.g., your motivation for a science career, training, past experimental work, research environment etc. You may cite up to 4 publications or research products. The latter may include conference presentations such as posters or talks.

- **Positions and Honors**

  This section is your chance to show all the great things you've done getting to this stage in your career. There is some flexibility in the categories, so you can incorporate almost anything that makes your star shine brighter. Include information from college on.

  Information should be provided in appropriate sections. Within each section, list information in chronological order (dates followed by position), concluding with the most recent position. Information should include -

  - Positions held. These can include employment, non-degree training (such as research internships and other research experience), military service, and other *relevant* positions *(NIH doesn't want to know about the summer job at McDonald's)*. Depending on what your list includes, you may want to list research experience in a separate section so that it stands out. Include the topic or title of your research endeavors. *(NIH includes previous research experience in a separate section of the application, but this will work for our purposes.)*
  - Academic and professional honors. Include scholarships, traineeships, fellowships, development awards, honor societies, other awards, etc.
  - Memberships in professional societies. If you held a position, so indicate.

- **Publications** – it is always helpful to highlight your name in bold

  Provide separate sections for each category below. Omit categories where you don't (yet) have anything. The list should be chronological within each section.

  - Research papers (i.e., peer-reviewed). Include manuscripts published, in press, submitted, and in preparation (*for NIH purposes, only published or in press*). Follow the format for the Literature Cited guidelines below.
  - Chapters or Reviews – as above
  - Abstracts and Meeting Presentations. List Authors, Year, Title, Meeting Name. If you presented the work, follow this information with *Poster Presentation*, *Short Talk Presentation, Invited Talk* or other relevant descriptor.
  - Masters Thesis (or similar)
  - Other publications. These can include articles in the popular press.

- **Contribution to science**. You can list up to five, no more than one-half page each including up to four publications or presentations. At this stage, you may not have that many but you can focus on what you've done as an undergraduate and graduate student, for example.

- **Scholastic Performance** - this will be different from the NIH form. There, you list only the science courses and grades from your undergraduate and graduate training. We are asking for a more complete view of your graduate training.

  - List by year all courses and rotations taken (or in progress) since entering GBS. Include grades, rotation mentors, and titles of rotation projects.
  - If you have taken courses outside of UAB (since entering GBS), list those in a separate section. Indicate year, location, course, and grade.
  - Provide your GRE scores (verbal & quantitative).
  - List title of Dissertation project and date of Admission to Candidacy, if applicable.
  - List dates of all committee meetings. *The last two entries are for tracking your progress.*

***B3. Career and Training Goals – This section is limited to 1 page.**

Throughout your graduate training, you should be continually assessing your career goals and evaluating your progress towards them. Putting this information in writing, and frequently referring to it, will help

you see the progress that you are making and the areas that need attention. Use this section to describe your overall career goals and explain how the training proposed will enable you to reach these goals. Identify milestones and your timetable for reaching them, e.g., completing your qualifying exam, completing specific aspects of your proposal, attending/presenting at meetings, publishing papers, writing your dissertation, having your final defense, identifying and pursuing postdoctoral opportunities. Describe your plans for coursework, career development activities, participation in lab meetings and other scientific venues, and any other aspects of your training.

B4. Research Strategy

This section is your research proposal. It should be well-crafted and succinctly stated. There is no need to repeat text in multiple sections. Use the pages wisely.

Research should be hypothesis-driven, and reviewers like it when you actually state your hypothesis. There can be an overall hypothesis to your project, as well as hypotheses within your aims *(In this aim, I will be testing the hypothesis that . . .)*. Stating the hypothesis helps you and the reviewers know what question you are asking.

***B4.1 Specific Aims – This section is limited to 1 page.**

This section should provide an overall description of the project, its significance, and the broad, long-term objectives. Clearly state the specific aims.

B4.2 – B4.3 constitute the Research Plan. These sections are limited to a total of 6 pages.

Do not repeat verbatim information presented in the Specific Aims section. Build on what you have already written. Figures are encouraged.

NIH does not have a specific section for Preliminary Data. If you have any, incorporate it into either the significance (which can cover background leading to the proposal) or Approach (where it could lead into how you are approaching the questions). Remember that data is not essential for the Qualifying Exam, and it is not the purpose of the Exam to evaluate your results. Do not use valuable space presenting information that is not necessary. If a specific result is critical to your proposal (i.e., the whole project hinges on its success) and you have achieved it, that would be worth reporting. *(FYI – reviewers hate proposals that hinge on the success of a single experiment and for which there is no apparent recovery if it fails – can you say triage?)*

B4.2 Significance

Describe the background leading to the proposal, critically evaluate existing knowledge, and specifically identify the gaps that the project is intended to fill. State the importance and relevance of the research.

B4.3. Approach

Describe how you will approach the problem and what you will actually do. Present each aim in a separate section. It can be helpful to start each section by summarizing the goal of the aim and what you will be doing. You can then expand on that in well-delineated subsections. Include procedures, analyses, and data interpretation. Consider potential difficulties, limitations, and alternative approaches. Provide a timeline for the overall project or for each specific aim.

The goal of this section is to present a well-thought out plan that will address the questions you are asking and succinctly present that plan. It should be a blueprint for your project. It should not, however, include minute details such as how many milliliters of each reagent you will use or how you will perform a western blot (though stating what antibodies you will use in a western blot is likely important). There are instances, however, where reporting quantities is critical (if your experiment requires 10^{12} mouse cells, and each mouse has only 10^{3} of those particular cells, you might want to rethink your plan).

B5. Literature Cited – use a standard style, such as ASM, that includes reference titles.
Foe ASM, references are cited in the text by number; citations are numbered by order of occurence. Citations are listed as - Authors. Date. Full Title. Journal Title. Volume: Pages. *If you don't know how to use EndNote, now is the time to learn.*

C. COMPONENTS REQUIRED FOR THE ADMISSION TO CANDIDACY MEETING
For documents that are updated from previous versions, indicate the changes by either a line in the margin (preferred) or alternate text style (e.g., italics but if the changes are extensive this will be annoying to read). Assemble all documents into a *single pdf* to be emailed to your committee.

- Face Page
- Biosketch - updated
- Career and Training Goals - updated
- Specific Aims – may be the same as for Qualifying Exam or updated if the plans have changed.
- Proposal – may be the same as for Qualifying Exam or updated if the plans have changed.
- Progress Report – the report should be succinct. The main components should be results in the form of figures and tables, and plans for the next six months to one year.

D. PROGRESS REPORTS FOR SUBSEQUENT COMMITTEE MEETINGS

- Face Page
- Biosketch - updated
- Career and Training Goals - updated
- Specific Aims – this is for the purpose of providing a brief review of your plans. It may be the same as presented previously or may be updated if the plans have changed.
- Progress Report – the report should be succinct and provide the following information:
    - updates on the research project – data and figures are encouraged. Present new information, difficulties encountered, and any changes to your plans.
    - plans for the next six months to one year
    - progress on and copies of manuscripts (completed or in preparation)
    - progress on timeline to graduation

For the Biosketch, Career and Training Goals, and Specific Aims, indicate updates to the previous versions by either a line in the margin or alternate text style (e.g., italics).

When preparing progress reports, it can be useful to present results as the figures planned for a manuscript. This approach can help you and your committee review your results and determine the experiments and directions necessary to complete the work.