General (Ph.D. Qualifying) Examination Procedures (taken from the IGP policies and procedures manual)

The examination to be admitted to candidacy for the Ph.D. degree (General or Qualifying Examination) in Biomedical Science administered by the Immunology Graduate Program is the preparation of a grant proposal based on the student's thesis research. Students are ineligible to take the qualifying examination before the plan of study has been fully approved (form can be found at: *https://grad.uconn.edu/forms/*) or if they are not in good academic standing (grade point average below 3.0). The following procedures are used to administer the examination.

VE1. Examination Committee

The Graduate School requires five (5) graduate faculty members to serve on the examination committee. This includes the IGP Director (who will serve as the chair of the Examination Committee), the student's Thesis Advisory Committee (comprised of at least three members, including the major advisor), and may include one additional faculty member if needed to reach a total of five. As the Examination Committee chair, the IGP Director will moderate the examination, and will be responsible for ensuring that the exam process is administered in a fair and consistent manner that fulfils the requirements of the Graduate School, and the Biomedical Science Program. If the Program Director is not able to serve as the Examination Chair (e.g., if their own student is being examined), the Associate Director will perform this role, and if the Associate Director is unable another IGP faculty member will be appointed. All five committee members will read the written proposal and be present at the oral examination. An outcome of "pass" requires a unanimous vote by the Advisory Committee.

VE2. Written Proposal

The written proposal is generally based on the NIH F32 Individual Fellowship format (http://grants.nih.gov/grants/funding/424/SF424_RR_Guide_Fellowship_VerB.pdf). In addition to a Specific Aims page, the Research Strategy will be 6 pages single-spaced using 11-point Arial font and 1-inch margins. The Research Strategy should consist of separate sections for Significance (approximately 1 page, to provide background to the research topic as well as explaining why the questions being addressed are important to the field), Innovation (approximately half a page), and Approach (the remaining pages) that will contain both the preliminary data and experimental designs (corresponding to approximately three years' worth of work). The preliminary data can include one figure from the student's lab that was generated by another individual (but which should be appropriately attributed), while the remainder of the data must be generated by the student. The Experimental Designs will contain either 2 or 3 Specific Aims. These designs should not include detailed descriptions of standard procedures, but students should clearly articulate hypotheses, experimental strategies, potential results and interpretations. It is also important that sections for potential pitfalls and alternative approaches be included. While it is expected that the major advisor and student will have had extensive discussions regarding the student's thesis project prior to the student beginning the general

examination, the major advisor should not directly assist the student in preparing the written proposal. The written proposal should be submitted to the examination committee at least two weeks before the oral defense date (refer to section VE.4). The criteria for a satisfactory written proposal are based on the overall quality and feasibility. Particular attention will be paid to the overall strategy, methodologies, and analyses to be used to accomplish the specific aims. It should be clear how the data will be collected, analyzed, and interpreted. Also, potential problems, alternative strategies, and benchmarks for success should be explained. The committee may request revision of the written proposal if substantial deficiencies are found, and only one revision will be allowed.

VE3. Oral Defense

The oral defense should occur two weeks following the submission of the written proposal, although the exact date can be adjusted to accommodate the schedules of the examination committee members. The student is responsible for scheduling the exam, including finding a room and a time for their exam. It is suggested that this be coordinated well in advance. If necessary, the Immunology administrators can assist with finding a room for the examination. The oral defense will begin with the student making a short PowerPoint presentation that includes a brief introduction providing sufficient background relevant to the proposal, the stated hypotheses, and the experimental design as related to completing the specific aims. Questions will be asked by the committee members during and after the presentation. Questions will address specific topics related to the proposal, as well as test the student's general knowledge of immunology and other relevant scientific areas. The major advisor must attend the exam and may participate in the preliminary discussions and post-exam evaluation. However, they must remain silent during the actual direct examination of the student, unless directly called upon by the chair of the Examination Committee to clarify a point of confusion or provide necessary context. Following the question and answer period, the Examination Committee will meet *in private* to discuss and then vote (refer to Section VE1) to determine whether the student passes, fails, or should be required to remediate some component of their examination. If remediation is deemed appropriate, the committee will decide what form these remediations should take (e.g., re-writing all or a part of the proposal, a second oral examination, etc.). Two weeks will be allowed for revisions, and the committee will only consider one revision.

VE4. Timing of the General Examination

The initial oral exam must be completed no later than June 30th of the second year for PhD students or G1 year for dual degree students. The entire general exam process, including any necessary remediation, must be completed by August 15th. These deadlines must be complied with, and a missed deadline will count as an unsuccessful exam attempt and initiate the remediation process. Extensions are possible only under extraordinary circumstances and require the approval of the Associate Dean of the Graduate School or MD/PhD or DMD/PhD Program Director.

VE5. Implication of Failing the General Examination

Failure of the exam constitutes dismissal from the program with the possibility of receiving a terminal Master's degree for work completed.

VE6. Passing the General Examination

Students advance to Ph.D. candidacy after successful completion of the General Examination. Once the committee has notified a student that they have passed, the student should complete and submit the "Report on the General Examination for the Doctoral Degree" form to the registrar.

Policy for Using Generative AI in preliminary exam

- Use of AI in writing: Students are required to author their own preliminary exam proposal. While it is permissible for students to use the Spelling & Grammar check function built into Microsoft Word to polish what they have written, it is not permissible for them to use AI tools (e.g., ChatGPT, etc.) to generate text as a substitute for their own writing. Such use is considered academic misconduct.

- Permissible uses of AI: In certain settings, it may be permissible to use AI tools for specific applications. Some examples might include, but are not limited to, AlphaFold for structural biology, or other tools that generate coding or working hypotheses for subsequent experimental validation. Permission for such uses must be given by a relevant faculty member(s), such as a course director or examination committee in the case of the General Examination. Further, students must clearly and appropriately indicate all such AI uses (e.g., in a figure legend of a General Examination: "code used to plot data in Figure X was generated with assistance from ChatGPT").