PhD Comprehensive Examination

I. Codification of procedures, rules, etc.
1. The PhD Comprehensive exam is composed of a Written exam, typically administered in the 4th week of the semester, followed by an Oral exam.
2. A student may attempt the Comprehensive exam twice.
3. All students must attempt the Comprehensive exam by their 3rd semester.
4. Upon passing the Written exam, the Oral exam can be scheduled and must be taken in the same semester of passing the Written.
5. A failed Oral exam does not require retaking of the Written portion.
6. A failed Written exam must be retaken and passed upon the next offering of the exam.
7. A failed Oral exam must be retaken and passed by the end of the following semester.

II. Issues of content
1. There will be Written and Oral parts of the Comprehensive exam. The purpose of the Written exam is to test fundamental engineering problem solving skills and conceptual understanding at the undergraduate senior level. The Oral exam is to test skills in independent research, written expression, and oral presentation.
2. The Written will consist of a 3 hour closed-book, closed notes fundamentals exam. The student must answer 6 of the 8 questions with scope defined by the course specifications for the list of required courses, in either EE or CpE. For EE, the required courses are EE2110, 2150, 2171, 3120, 3130, 3140, 3160, 3170; for CpE, EE2110, 2150, 2171, 3130, 3160, 3173, 3175, 3970. All course specifications are given at: http://www.ece.mtu.edu/faculty/rmkieckh/abet/COURSE-SPECS/. The fundamentals exams, EE and CpE, will be assembled by the Chair of the Grad committee.
3. The Oral will consist of
   a. follow-up of the student’s performance on the Written exam
   b. the student presenting to his/her committee a paper written in IEEE format as a response to a set of selected questions provided by the faculty in the candidate’s field of interest. The selected questions will be given to the student upon returning the results of the Written exam. A minimum of 2 weeks will be allowed for preparation for the Oral. The committee will serve as “referees” to the student’s work and the student will be expected to orally defend their paper.