Comprehensive exam

Changes to the Comp Exam rules. The purpose of this change is to allow students to pass parts of the exam at different times.

The Comprehensive exam comprises 4 sections representing the four core areas taught in the undergraduate and graduate curricula:

Section 1, QM (2 questions, total 40pts) Section 2, EM (2 questions, total 40pts) Section 3, Stat Mech (2 questions, total 40pts) Section 4, Classical Mech (2 questions, total 40pts)

- To pass the exam, a student must achieve a score above the passing level determined by the faculty.
- A student may pass the exam by passing the 4 sections **individually** or by passing all remaining exam sections **collectively**.
- That is, at any exam, a student will **individually** pass sections by achieving a score above the passing score for that section or will **collectively** pass the whole exam by achieving a total score for all sections attempted above their total passing score.
- Once a student has passed a section(s), he/she may elect to take or to not take that section(s) at subsequent exams. If he/she scores above the passing score for that section, that score will be included in the collective score for all sections taken. If the previously passed section is not passed on the second attempt that section will not be included in either the exam score or the total score in determining the collective scores and the previous pass remains valid.
- At each exam (except at practice exams), a student must take all sections that have not been previously passed.

Students are (normally) required to take the exam starting in the spring of their 1st year and may attempt at most four examinations, excluding exams taken for practice in the Fall and Winter of their first year. All exam sections must all be passed by the spring of the 2nd year.

1st year students may take the exam (or any sections they desire) for "practice" during the fall and winter of their 1st year. A pass of any section(s) or the entire exam will count toward the passing requirement. Any practice scores below the passing score will not be recorded.

Examples – assuming a 50% passing score.

Mary Goeppert-Meyer passes section 1 on arrival in the Fall with a score of 35/40. She then takes the remaining sections and scores 30/40, 15/40 and 20/40 on sections 2, 3 and 4. She has a cumulative score on the second testing of 65/120 and passes.

Mike Joliot-Curie passes section 1 on arrival with a score of 25/40. He then takes the remaining sections with scores of 25/40, 15/40 and 10/40 for a collective total of 50/120. He has now passed section 2 but still needs to attempt sections 3 and 4 at a later date and score more than 40 total points.

Louis Meitner passes section 1 on arrival with a score of 25/40. He is an expert in exam 1 material. He takes the full exam again and scores 40/40 on 1, 20/40 on 2, 20/40 on 3 and has a really bad day and gets 0/40 on 4. He passes with a cumulative score of 80/160.

Dixy Lee Ray, former Governor of Washington and Head of the Atomic Energy Commission, decides to come back to OSU for a Physics doctorate and passes the Quantum Mechanics section on arrival with a score of 25/40. She decides to take the QM section again to raise her overall score. Unfortunately, she has a bad day and gets 15/40 on the QM exam the second time. She receives scores of 25/40, 15/40 and 20/40 on the other sections. Her cumulative scores exclude the QM section, as she has already passed that section on a better day and with 60/120, she passes the rest of the exam.