

## PLAN FOR ONLINE 707

The following is the proposed plan of instruction for PHYSICS 707. This comes from the online meeting 4/13/20 of Yavuz, McDermott, Kolkowitz, Brar, Holland, and Joynt. On 4/17/20 in another online meeting it was described to the students that have signed up – the reactions were positive. Obviously an online lab course is nearly a contradiction in terms, but this represents our best shot in the circumstances, unless any better ideas arise very soon.

Apart from the basic educational goals as set out in the sample syllabus course proposal, it's important to note that 707 needs to mesh with PHYSICS 799, which nearly all the students will be taking at the same time. Also, we need to be sure we meet the basic effort requirement: 707 is 4 credits, and the provost's standard is:

**Option D:** *This is a lab course. Students will meet the 4 credits of the course by spending a total of 180 hours (at least 45 hours per credit) on learning activities and working with the instructor. This includes scheduled lab time [insert times], and open [insert hours] lab time, and any additional time outside lab.*

The plan is that 707 will consist of two components, (a) a research component and (b) a survey of quantum computing platforms, as represented by the already-planned 707 labs.

### RESEARCH COMPONENT

- 1) Each student is connected with a faculty experimentalist supervisor, who assigns them a project derived from research in the faculty member's lab.
- 2) The project will require the student to become familiar with the physics background, and with the overall goal of the project.
- 3) The specific task will be data analysis, simulation, or both.
- 4) The project can be an extension of an ongoing or concurrent project that is receiving 799 credit, but the total work must add up to the sum of the 799 and 707 credit that the student is getting.

## **SURVEY COMPONENT**

- 1) Each student is assigned one of the labs in 707. There is a supervisor that can answer email questions on the lab.
- 2) The student will be provided with the lab write-up and any other necessary background material. If appropriate, sample data may be provided.
- 3) The student will present the results in a one-hour online meeting with faculty and the other students in the course.

## **GRADING**

Final grades on an A-F basis are determined by the supervisors of each of the two components, in consultation. The students will have the option of a pass-fail grade.

R. Joynt, 4/18/20