

## Appendix 12: Classroom Scheduling

As we noted in the main report, the process of devising a course schedule that takes advantage of all available classroom resources should differentiate between interchangeable spaces (lectures, discussion sections, seminars), and the subset of class meetings for which special facilities are required. Departments will need to develop the schedule for special facilities, since the revised capacity of these facilities can only be understood locally. Our classroom scheduling process thus focuses on the portion of the schedule that uses interchangeable spaces.

1. A schedule implementation team will provide each department chair with a spreadsheet with all class meetings on the Fall 2019 roster and their enrollments.

The spreadsheet will include a row for every class meeting in F2019 for which a room was assigned, not including independent study, field, or and research class meetings. The columns will indicate enrollment in Fall 2019 and give a space for chairs to flag any class meetings for which that department is not the parent.

Chairs will decide, based on this information, whether they want their final allocation of rooms for courses of 50-100 based on the maximum course size of 46-50, or instead, if we should allocate based on using two classrooms of half that enrollment. (At this stage, chairs must select the same allocation strategy for all of their 50-100 student courses, but this will not constrain how the department distributes its allocation at the course level in a later step.)

Chairs can also indicate major curricular changes between F2019 and F2020 that would affect their final allocation in a meaningful way. For example, staffing shortages in F2019 or an unusual number of faculty leaves may have made their F2019 roster appreciably thinner than their planned F2020 roster.

This spreadsheet will also include a tentative allocation of classroom hours/week, visible to chairs, based on the department's F2019 use of rooms for lecture, discussion, and seminar meeting types. This tentative allocation will be computed as follows.

- For each class meeting in F2019 of a given size (1-5, 6-10, 11-15, 16-20, 21-25, 26-30, 31-35, 36-40, 41-45, and 46-50), we compute the total number of minutes of class time in classrooms with that current capacity under physical distancing.
- For class meetings with enrollments of larger than 100, we will compute the total number of minutes of class time in F2019 and multiply by 1/3, and then add this product to the total minutes for the 46-50 classroom bucket. This fraction is based on the committee's preliminary survey of chairs, which indicated that about 1/3 of the 100+ person courses in responding departments would be either split into independently taught sections or split into groups of students that alternate attending in person and online throughout the week. The survey indicated that the remaining 2/3 of class meetings of that size would likely be online only.
- For class meetings with enrollments between 50 and 100, we again multiply the total number of minutes by 1/3, and (depending on the selection made for the department) either add this quantity to the allocation for classrooms of adjusted size 46-50, or add twice that number of minutes for the allocation of classrooms of half that size. For example, for 300 total minutes for class meetings of size 71-80 students, a department would either receive 100 minutes for a classroom of size 46-50, or 200 minutes for classrooms of size 36-40.

Chairs will have a hard and fairly short deadline to respond with corrections to our roster and major concerns about disparities between F2019 and F2020, as well as substantial differences between their responses indicated to the earlier survey relative to the aggregated response. We recommend 3 business days.

2. Based on these corrected F2019 data, the implementation team will determine a revised allocation, based on a preliminary estimates of classroom availability for each range of class sizes. This will likely just be a small rescaling of the original allocations, to ensure overall feasibility.

Because the 1/3 multiplier for large courses is based on aggregate results from a chair's survey (and some large departments didn't answer the survey), the revised allocation will consider the feedback we get from departments on how they prefer to manage their 50+ student courses.

3. The implementation team will distribute the revised classroom allocations to chairs, along with their complete F2020 rosters. In conversation with their faculties, chairs will finalize the list of classes they wish to offer in F2020, given their classroom allocation and available teaching resources. They will also be asked to devise schedules for specific rooms that they are allocated (see below) of a given size.

At this stage, departments must also make a final decision about how to manage each class meeting that, based on prior years, may enroll more than 50 students. The choices are: split the course into independently taught sections with fewer than 50 students each, implement an “alternate day of the week” structure where students are in-person some days of the week and online in others, cap the course at 50, or teach the class meeting online. (Note that if the class meeting is a lecture, the associated discussion sections may still be in-person.)

Departments will also need to identify which class meetings will be online and which will be in person or partially online (under the “alternate day of the week” model). Courses that are online only will not count against their room allocations.

We also recommend that, where possible, the implementation team assign particular classrooms to particular departments and ask the department to *completely fill* the weekly schedule for that classroom. This would give departments more control and allow them to minimize scheduling conflicts within their programs, coordinate with other departments that often share students (e.g., in a joint undergraduate program), and be sensitive to faculty and section leaders who have firm constraints on the timing of their courses (e.g., an instructor with school-aged children may not be able to teach an 8 am class or discussion section).

Suppose, for example, that the Math department has an allocation of 100 hours/week of classrooms of effective capacity of 31-35 students, and the standard weekly schedule the University adopts has 40 teaching hours per week. The Math department might be allocated two student classrooms of that size, or 80 classroom hours of a 31-35 student classroom, to schedule in a way that is sensitive to potential scheduling constraints and instructor needs. Note, however, that Math would need to fully schedule those two classrooms through all 40 hours of the standard weekly schedule; otherwise, there will not be sufficient capacity campus-wide for the full roster.

A more centralized mechanism, coordinated by the registrar, will schedule the residual classroom hours that are not allocated to specific departments. In the example above, Math was instructed to fill 80 hours of meetings in two specific classrooms, but their “budget” for classrooms of that size was 100 hours. The remaining 20 hours, or 0.5 of a classroom with a 31-35 student capacity, would still be budgeted to Math, but it would be scheduled centrally. (The alternative, of asking Math to work with the other department(s) who are also allocated a fraction of that classroom’s weekly hours, strikes us as too complicated and inefficient.)

Note: We recommend departments are given a hard deadline of a week to complete this step. We recognize this will be a challenge.

4. Departments and units with specialized classroom needs will be asked to provide a similar schedule for class meetings that require special facilities, typically of class type LAB, FIELD, etc. Departments should follow their usual process for scheduling these rooms, although the class meeting times may need to be altered to be consistent with canonical hours that are set centrally. Departments can begin scheduling the special rooms as soon as these canonical hours have been announced, but we recommend that they have 2-3 days to integrate the special room and interchangeable room schedules.
5. The implementation team will integrate all of the departments-scheduled rooms and times and the centrally scheduled rooms and times. Once it has created a tentative class-time schedule, we recommend that departments have a short period (2-3 days) to look over this schedule to check for significant conflicts. We also recommend more transparency at this point than is typical, allowing all faculty to crowd-source the task of “debugging” the schedule.

At this stage, departments that had to limit in-person course offerings because of their classroom allocation may request access to otherwise unscheduled classroom hours. The goal is to augment the in-person fall course offerings to the maximum capacity of the university’s classroom space.

6. Once the department-level review is complete, college deans will be asked to review their colleges’ course offerings. The goal of this review is to ensure that we’re offering sufficient in-person classes across levels of students and curricular goals (e.g., general education and distribution requirements, freshman writing seminars, required courses in majors, small seminars for upper division students). This is consistent with our goal of ensuring that all students, regardless of their level, who are on campus in fall have at least some in-person educational experiences (if they want them). Deans should also consult with the directors of academic programs that rely on, but do not directly control, department-based curricula (e.g., the Knight Writing Program).