Addendum: Guidelines for Instructors and Classes On Using the Lab (as part of course instruction).

If an instructor requires all students to use Solid Space as part of a course: Instructors must inform the Solid Space and SIATs Admin Manager of their intention to use the Lab for scheduled courses at least 1-2 months prior to commencement and before the course assignment and time lines are established.

A meeting will occur where matters pertaining to the course are discussed. This is to facilitate hiring of any needed extra staff, fee issues, changes in shift schedules, as well as to organize any specific tooling needs or demos.

Specific usage guidelines fitting the requirements of the class, assignment, and the constraints of Solid Space will be established, ie what the extended hours may look like. These will be circulated via e-mail.

Some basic issues instructors should take into account:

- 6 students max (not including Lab staff) is the capacity of Solid Space shop, 3702.
- You will need to give parameters on expected shop contact hours for students- in other words, how many hours you expect each student or team to spend working in the lab/shop.
- Mandatory orientation sessions & fees will apply: Arrangements to address these take place before expected start of assignment.
- Material limitations for the laser cutter, and the lack of ability to accommodate major metal work, sanding or spray painting affect assignment parameters.
- It may be necessary to deliver information related to the Lab in class. For example, safety materials and quizzes, and having staff come in to deliver handouts, etc.
Orientation/Training may be not be needed for those on record as already having received it. However, the Production Technologist may require users to come in to receive an updated one.

**Note:** If students are not on record for the approved orientation, they will not be allowed in.

### 1.1 What Teaching Staff Can Do To Help.

The key to Solid Space running smoothly is having students show up for their Solid Space time prepared. It helps when Solid Space guidelines and safety issues are properly communicated to students. As such, instructors should familiarize themselves with all aspects of these documents.

For example, laser cutter projects need to have the right materials and have the files in the right format (.cdr- Coreldraw) to work. There is no time or space for the students to sit in the Lab and correct work, PCs in the lab are to run machines. So Corel is in the drop-in lab on the mezz- for that purpose.

**Students unprepared will be asked to leave and rebook their appointment, even at the risk of an incomplete project.**

Please remind students to communicate clearly in how they intend to use the lab, **before** they book it. This ensures the right staff (and number) are on hand to help out and that any special needs can be taken care of.

- When students book, they need to be able to say whether they are laser cutting, using power tools, or 3D printing, and how many of their group intend to show up for the booking.
- Solid Space staff should have access to the class mailing list, Canvas course materials prior to class start, if possible.
- Students to be made aware of booking and orientation guidelines, and where the documents are online.
- **STUDENTS NEED TO BE MADE AWARE OF, AND MUST USE, IF LASER CUTTING, CORELDRAW IN THE DROP-IN LAB. THIS POLICY WILL BE STRICTLY ENFORCED.** AppointmentS ARE NOT VERIFIED IF NO COREL FILES ARE EMAILED.
- Students who are using Solidworks to generate files for laser cutting need to be made aware of issues that can come up. (see ‘Laser’ guidelines)
- Understand principles of operation of the machinery in Solid Space.

Handouts will be provided facilitate the communication of these matters to students. Solid Space staff can also come to lectures to communicate Solid Space policies, teach machine principles. Students may also need to complete an in-class quiz to demonstrate general safety awareness, etc.
Additionally, the instructor and students are reminded that:

The larger the team (and less teams in total), the more hours can be allotted to the project the team is producing.

Students completing work individually, in large classes, may be very limited in possible project scope.

Doubled bookings (ie: Team A and Team B using Solid Space at the same time) can be done if students communicate booking information clearly. This too, can increase time available to complete projects.

Also:

- **Volume constraints/fees may be imposed for projects, especially if using the 3D printer.**
  
  For example: each team may be limited in cubic inches of model material used for project use.

- **Additional material and sizing constraints might be imposed for use of the laser cutter to ensure students fall within their time constraints.**

The required fidelity of the models/projects is also an issue in setting up Solid Space times. For example, very high fidelity models, over a short assignment duration, with a high number of lab sections may be very difficult, if not impossible to accommodate.

Do keep in mind that Solid Space cannot be held liable for students missing deadlines or for the aesthetic qualities of models, etc.

Machinery breakdowns and similar issues will be communicated to the instructors to allow for adjustments in course delivery, should they become a problem.
Solid Space scheduling and use is coordinated by the Production Technologist. For safety and liability reasons, unauthorized access to Solid Space and equipment is not allowed. A person is considered qualified to operate in Solid Space without supervision if they have completed all applicable training and can use lab equipment independently.

Instructional staff must adhere to lab use and scheduling policies regarding orientations, training, and arranging access to the lab for students. Policies can be found [http://www.sfu.ca/siat/about_siat/space.html](http://www.sfu.ca/siat/about_siat/space.html). Simplified versions are distributed every semester to applicable classes.

TA's for undergrad classes that require students to use Solid Space for project completion (IAT336 and 437) need to maintain a close working relationship with CUPE technical staff to ensure activity runs efficiently, predictably, and safely in Solid Space. However, it is important that the distinction between the roles of Teaching Assistants (TSSU) and Solid Space Technical Assistants (CUPE) be maintained to stay within SFU HR policies and established job descriptions.

To clarify:

**Cupe Tech staff expectations:**

- Operate and maintain the machinery in Solid Space, in a safe and knowledgeable manner.
- Assist and/or coordinate with in-Lab orientations and safety training.
- Assist students with technical implementation of their project.
- Work within the Solid Space booking/schedule, set by the Production Technologist.

**Teaching Assistants expectations:**

- Teaching assistants generally **will not** operate or maintain the machinery in Solid Space.
- Do not conduct in-lab orientations and safety training, but may be involved in their set-up and implementation.
- Work within the Solid Space booking/schedule, set by the Production Technologist.

**Research Assistants:** Research Assistants (RAs) are not considered SFU employees but are directly employed by the faculty member. The job description of a RA is determined by the faculty member.

**When a research project requires the use of Solid Space the following guidelines apply:**

- RAs who are qualified to use Solid Space can operate machinery for their own research purposes. They are required to follow all applicable guidelines related to machine operation and lab scheduling policies.
• RAs do not supervise or assist other students in Solid Space unless it is part of the same faculty research group and the Production Technologist approves.

• Unqualified RAs (not trained on machine use/safety etc) cannot operate or maintain the machinery in Solid Space and are required to contact the Production Technologist to schedule lab time and/or project support. Any 3D print services, notable laser time or extensive use of lab services will be charged at the applicable rates. Lab use charges may still apply. (ie 3D printing, though set-up may be waived).

• All RAs are required to work within the Solid Space booking/Schedule set by the Production Technologist.

1.3 Other Matters Affecting Solid Space Scheduling.

Solid Space regular hours of operation are Monday to Friday from 9am-4pm. The Production Technologist’s regular department hours are Mon-Thu 8:30am-4pm and Technical Assistants can be scheduled outside of these hours. Consult with the Production Technologist to schedule time in the lab. Lab use is encouraged during the weekdays, during regular department hours.

If this is not possible, evening (from 4pm to 9pm) or Saturday hours may be considered if technical assistants are available. Late evenings and Sundays are discouraged due to limited availability of technical support or help.

Although Solid Space technical staff are happy to arrange extended schedules to facilitate the completion of student projects, hours will not be altered or extended because students have prioritized other classes or are poorly prepared.

In the event of machinery breakdowns, Solid Space staff will do their utmost to rectify such situations. Instructors and students will be notified ASAP and relevant information will be communicated. In the event of serious issues, (such as; the 3D printer breaks down and needs a site visit), staff will assist to identifying and arranging alternative methods of completing projects.

This cannot be repeated enough: Student will be expected to be on time for their bookings and be prepared when they show up.