Supervision is fundamental to Cambridge undergraduate education. There are variations, of course, across the spectrum of academic disciplines and a supervision at the beginning of the first year is different from a supervision towards the end of the first year – and from a supervision mid-way through the final year.

The most obvious approach to supervising online is to replicate what you and your students would normally do, using video conferencing. There are a range platforms to choose between and for many, video conferencing has clear advantages in allowing supervisors and students to see and hear each other. For many, this form of human contact may also be particularly valuable during periods of social distancing.

There are some technological limitations, as well as important considerations concerning the requirements of disabled students and staff including those with neurodiverse profiles. And, as anyone who has taken part in a multi-person video-call will know from their own experience, it takes time to learn how to take part in – and to guide – discussions and exchanges that include, rather than exclude, contributors.

In this introductory guidance, we have tried to highlight some of the tools that are available, their advantages and limitations, and to suggest some alternative ways of supporting students’ supervision learning. But it takes time to develop – and improve – different approaches, so once you’ve identified any particular considerations that you and your students need to be aware of, it’s reasonable to start with what you and your students know and are comfortable with.

If as a supervisor you have questions about supervising online, try to find others to share your questions with:

- your students may be able to give you ideas about what’s working and how to engage with challenges
- fellow supervisors may be able to help each other to share ideas and resources: this is a great opportunity for cross-fertilisation and innovation
- as ever: if you’re worried about supervisees or have difficulties holding supervisions in the way you had expected (for example, illness/serious interruptions to internet connectivity): contact their Director of Studies or Faculty/Departmental Teaching office (as appropriate).
PREPARING TO SUPERVISE ONLINE: i. Devices, connectivity and bandwidth

We have to assume that students have access to some computing device and an internet connection. It’s important to check details, though – for many, there will be access to a desktop, laptop, or tablet; for some, the device that is available will be a smartphone.

Some students and supervisors will rely on an internal microphone or a camera built into a laptop or phone; others will have high quality external devices. A headset will prevent feedback between microphones and loudspeakers; headphones can be beneficial. Some students – and supervisors – won’t have access to either; even if it is possible to place an order, delivery times may be significantly slower than usual.

The quality and type of network connection will also vary. In addition to normal variations, there is currently a huge increase in online traffic. Everyone is likely to have experienced difficulties, ranging from delays in the transmission of sounds and images to longer interruptions. Students in some countries (particularly China) have heavily filtered internet access. Be prepared for your preferred system not to work, or to stop working at some point.

There are ways of trying to mitigate these difficulties. When you’re planning for supervisions, try to have some fall-back options – we’ve offered some suggestions in one of the following sections, ‘Planning Supervisions’. Delays in sounds and images also mean that it’s beneficial for supervisors and supervisees to have some sort of framework for guiding interactions, so that everyone is included. You may already have some ‘classroom management’ techniques that you can adapt and share with your students; you may find some ideas in ‘Guiding inclusive discussion and interactions’.

Note: for disabled students and those with neurodiverse profiles, video calls can cause major difficulties. We’ve provided some more detailed information, and some suggestions for good practice in ‘Guidelines for supervisions with disabled students’.

In some subjects and colleges, Directors of Studies may already have information about the technologies available to students and be able to share this with supervisors, so as to minimise the numbers of enquiries that students need to respond to.
PREPARING TO SUPERVISE ONLINE: ii. Environments and availability

KEY POINTS

• Where will your students be, physically, for supervision?
• How available will they be for supervision, in the next period?

There is lots of information online about the types of environment that are conducive to teaching and learning: create a suitable area, keep it tidy and clear of distractions, manage your time and plan your day.

This is good advice, in general – yet there may also be good reasons why it’s not applicable to students or supervisors working away from their usual Cambridge locations. Most obviously, people may be living in spaces which are shared with others, for example, family members, and illness or caring for others may restrict time available. There are also considerations relating to connectivity and bandwidth: several members of a household may be working or studying online, for example (see previous section).

There are other considerations relating to ‘availability’ for supervisions. Most obviously, if you’re supervising students in a different part of the world from where you are, it’s possible that you may be in different time zones.

Try to factor these considerations into your planning and try to enable your students to let you know of any difficulties they experience – as well as practical ideas that they may have for working around them.

There are some important, but basic things to check through before you start supervising using video conferencing, including privacy. We have summarised what we think are the main ones in ‘Supervising and conference calls: setting up your technology and your environment’.
Undergraduate supervisions vary in size. Many will consist of two, three or four students, and almost all video conferencing tools will support this. The most familiar options are:

- Teams ([Conducting a supervision with Teams](#))
- Google Meet ([Conducting a supervision with Google Meet](#))
- Zoom
- Skype

Microsoft Teams and Google Meet (within Google Suite) are both supported by the University Information Services. This means that all students already have accounts and the University has reviewed issues of data protection, privacy and security. The difference between Teams and Google Meet is that Teams is a full collaboration product with chat rooms, document sharing and many other features. Google Meet is a straight-forward video chat platform.

**Recording online supervisions:** Disabled undergraduates with permission to record face-to-face teaching should be permitted to record online supervisions, to help to improve their learning. This is in line with the [University’s Code of Practice: Reasonable adjustments for disabled students](#).

Supervisors and students may agree to record online supervisions, to help to improve the learning of supervisees taking part in the supervision as well as to share the supervision with students who are not able to attend. In these instances, the supervisor and / or students wanting to record the supervision should indicate this at the start of (or in advance of) the supervision, ask whether the others are in agreement and confirm that the recording would be purely for study purposes and would not be posted online.

Please note: there are some important differences in terms of **accessibility** for disabled students, in particular the availability of live captioning and the production of automatic transcriptions (important for students with hearing impairments, and also beneficial for those for whom English is not the first language).

A comparison of the features offered by different video conferencing options, highlighting considerations relating to accessibility for disabled students, [DRC comparative assessment video conferencing](#).
Supervising undergraduates is often described as a flexible, personalised way of teaching, with a strong focus on feedback which helps students to consolidate and extend their understanding and to understand their current strengths and how to improve. Making time in advance to identify what you think students taking part in your supervisions should learn and be able to do (for example, develop problem-solving abilities, or their capacity for interpretation or critical evaluation), will help you to plan your supervising online and to make the most efficient use of the time you spend in the supervision. There is no expectation that you should spend more time supervising, and Faculty or Departmental supervision norms will still apply – so keep track of the time you spend online.

It is also likely that supervising and supporting students’ learning online may require more deliberate structure than you’re used to giving, for other reasons. If you’re supervising more than one student, for example, at the least you’ll find it helpful to direct your questions, to avoid both students trying to answer at once – delays in the transmission of sound and images can make interactions feel stilted and you and your students may need to take a little time learn how to engage in discussion online and to become more confident in doing so. Video conferencing can also amplify challenges for students and supervisors for whom English is not a first language, with hearing impairments and/or neurodiverse conditions such as dyslexia, dyspraxia, ADHD or Autism. We have developed some guidance which we think may be helpful for all students and supervisors, ‘Supervising online: guiding inclusive discussions and interactions’.

We have developed more specific guidance for conducting inclusive discussions with students with Autism Spectrum Conditions, specific learning difficulties and mental health conditions, and with physical and sensory impairments and long-term health conditions, ‘Guidelines for supervisions with disabled students’.

PLANNING SUPERVISIONS: i. Structuring online conversations

KEY POINTS

When planning to supervise online, first take time to think about your students’ learning:

- What do your students need to learn and to be able to do, in the subject and at the level that you teach?
- What normally happens in supervisions that fosters this form of learning? What type of ‘activities’ are involved?
If your students are completing work on paper, you will need a way for them to ‘hand it in’ and a way for you to return the marked version. If you’re using Moodle, you can set up the ‘assignment’ function, see ‘UIS Moodle assignment basic guide’.

Few students or supervisors will have access to a scanner. However, students and supervisors can download apps such as CamScanner, to tidy up photos taken using a smartphone camera and to convert images to pdfs. Similarly, notes taken during supervision can be converted into pdfs and shared with students after the supervision.

Note: it is not recommended to send images direct from smartphone cameras: it is very difficult to avoid problems with angles, light quality – and it is very difficult for supervisors to annotate work submitted in this way.

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Pdfs can be annotated using tools available on your platform

1. Microsoft Lens (integrates with Teams)
2. Drawboard (Windows 10, additional cost)
3. Word (Windows or Mac)
4. Preview (Mac)
5. Google Drive (All platforms)
6. Xournal (Linux)
7. PDF Expert (Mac, iPad, additional cost)

You could also consider recording your (spoken) feedback on supervision work, using a voice recorder on a smartphone and uploading the file to Moodle. In addition, if a session is recorded in Microsoft Teams and the live captions are turned on, a time stamped transcript is created which you can view and edit in Microsoft Stream.
When you’re preparing to supervise online, it may help to identify the types of ‘activities’ that you and your students undertake and how you think these contribute to your students’ learning. Some of these activities will translate fairly easily into video conferencing, and others may be more challenging in themselves, or may pose particular challenges for some students.

For example, during supervisions you might expect some time to be spent in answering questions, explaining important concepts or methods, working collaboratively to solve problems, listening carefully to students, guiding your students in discussing ideas with each other, giving students specific feedback which helps them understand what they have done well and how to progress, encouraging students to reflect on their learning.

We have developed an overview of some of the most common supervision activities and suggested some ways of realising these online. We have also highlighted some challenges for accessibility for disabled students and those with neurodiverse profiles, ‘Common supervision activities, some tools and some alternatives’.
For many supervisors and students, online supervision is a new experience. Under any circumstances, developing new approaches can be unsettling. There are many reasons for trying to exchange and test out ideas and questions with others:

• Try to share questions, ideas and maybe resources with fellow supervisors: doing so could help identify and address problems, could save time, and could even lead to innovation
  o some Colleges, Departments or Faculties may have discussion forums, by email or within Moodle
  o alternatively (or as well), you might be able to set up an informal network.

• Try to collaborate with your students: talk with them about what you’re trying to do, ask them about their experiences of online supervision: what’s working for them, what do they think could help to iron out difficulties or enrich their learning?
  o the ‘chat’ function within Teams, or Forums within Moodle, or collaborative editing documents could be a way for students to develop their ideas and share them with you and each other
  o there are plenty of suggestions for ways of getting feedback and ideas from students online. We have included one very basic approach, which can also be illuminating:

**COMMEND AND RECOMMEND**

Basic format: at the start of a teaching session, explain to the students that at the end of the session you will ask them for two brief comments on what they have found helpful and one thing that they think could be changed and why they think this would help. The balance of ‘commendations: recommendations’ (2:1) encourages constructive feedback.

You can decide whether you want to do this ‘live’, during a conference call, or whether you will post the questions below and ask students to respond in their own time.

Be ready to collect your students responses, think about their ideas and then explain at or before the beginning of the next supervision what you’ve decided to do, and why.

Q1: Please tell me about two aspects of today’s supervision that you found helpful and briefly explain why.

Q2: Please tell me about one aspect of today’s supervision that you think could be done differently and briefly explain why you think this would make a positive difference.
GUIDANCE

- Guiding inclusive discussion and interactions
- Guidelines for supervisions with disabled students
- Supervising and conference calls: setting up your technology and your environment
- Conducting a supervision with Teams
- Conducting a supervision with Google Meet
- DRC comparative assessment video conferencing
- University’s Code of Practice: Reasonable adjustments for disabled students
- Common supervision activities, some tools and some alternatives
- UIS Moodle assignment basic guide
- UIS Moodle assignment guide for students

TOOLS & TECHNOLOGY

- CamScanner
- Microsoft Lens
- Drawboard
- Word
- Preview
- Google Drive
- Xournal
- PDF Expert
This introduction to moving undergraduate supervisions online was developed by the Cambridge Centre for Teaching and Learning. We are grateful to Senior Tutors for their guidance. Several Directors of Studies gave feedback and shared ideas; particular thanks go to Dr Andrew Rice (Computer Lab, Queens’). Our colleagues in University Information Services and the Disability Resource Centre were generous with their advice and time. The ourcambridge team provided invaluable design help.

We welcome comments and suggestions. If you would like to get in touch, please contact enquiries@cctl.cam.ac.uk.