

Hybrid teaching for academic year 2020-21

1. Introduction	2
2. What is hybrid teaching?	3
3. Support for hybrid teaching	4
Adapting the Learn Foundations programme	4
Support and training for hybrid teaching	5
Capacity required	6
Student support	7
4. Prototypes for hybrid teaching	7
Preparation and induction	7
Lectures	8
Seminars and tutorials	8
Computing labs	9
Labs, workshops and studios	9
Student group work	10
Skills and professional practice	11
Field trips	11
Project work and supervision	12
Annex A: current adoption of Learn Foundations	13
Annex B: Immediate and longer-term technology responses	14

Document developed by Sian Bayne (AP Digital Education) and Melissa Highton (AP Online Learning), with contribution from Colm Harmon (VP Students) and Gavin McLachlan (VP CIO and Librarian)

Additional expert input from Stuart Nicol (ISG), Karen Howie (ISG), Lee-Ann Simpson (ISG), Michael Gallagher (Education), Simon Kelley (Geosciences), Tim Drysdale (Engineering), Tim Fawns (Clinical Education) and EFI Fellows – Michael Herrmann (Informatics), Stuart King and Colin Rundell (Mathematics), Jane McKie and Anna Vaninskaya (Literatures, Languages and Cultures), Larissa Pschetz, Elizabeth Petcu, John Brennan and Sarah Kettley (Edinburgh College of Art), Laura Cram, Juli Huang and Jean-Benoît Falisse (Social and Political Sciences), Jen Ross (Moray House School of Education), Kirsteen Shields (Global Academy for Agriculture and Food Security), Candace Jones, Stephen Osborne and Maurizio Tomasella (Business School), Paul Kosmetatos (History, Classics and Archaeology). More to come.

28 April 2020

1. Introduction

The university has committed to launching taught programmes, where possible, at the start of academic year 2020/21. The circumstances in which we will be teaching are highly uncertain. However it is clear that we need to plan for some of our student body, most likely a portion of our international students, being unable to attend campus in person for part – or all – of the year. In addition, social distancing restrictions on campus may exist for some time, restricting or periodically removing student access to lecture theatres, labs and other teaching spaces. We expect to have continued outbreaks of COVID-19 – students may have to self-isolate at short notice as they or those they live with fall ill. Students entering the UK may be required to self-isolate for a period of time before commencing their studies. Larger scale outbreaks may occur that require further lockdowns of the entire population.

We need to ensure students can continue to learn in these very difficult and volatile circumstances, while also delivering on our commitment to offering high quality teaching within a welcoming and coherent community of scholarship. Our approach needs to make it possible, within a very short timeframe, for:

- students to study entirely remotely where travel is impossible for extended periods, with the option of shifting to campus when restrictions ease
- students studying on-campus not to be wholly dependent on access to campus for the entire year, but to be able to shift between campus and online modes at short notice if they need to isolate or return home
- on-campus study to take place at lower volume even when campus is open, to allow for social distancing
- all students to feel part of a community, and for new students to feel appropriately welcomed

This is clearly challenging. However, the university is in a better place to approach this with creativity and confidence than many comparable institutions. We have a history of investment and innovation in digital and online distance education, including a strong portfolio of exceptional distance PGT programmes from which we can learn. We have a highly skilled and creative academic body and strong support infrastructures. We have a values-base and vision for digital education through the work of the Near Future Teaching project, and also capacity to develop new shared courses as needed if there are significant gaps in curriculum to be filled.

This is a chance to do something more than the basic ‘need must’ approach to online. If we get it right we can begin to build new approaches which not only mitigate the immediate COVID-19 crisis, but which build our capacity for creative, resilient and future-facing pedagogy longer term (see Annex B). However the paper is not advocating for fundamental changes to the university curriculum, but is rather focusing on how existing provision can be mobilised differently to meet the very specific challenges we are facing this year.

The model proposed in this paper defines a supported model of hybrid teaching which addresses the current need, but also builds on work which was already under development (pre-COVID-19) within the university, most notably:

- Planning for hybrid teaching within the Edinburgh Futures Institute, which has been actively designing innovative, resilient, online-offline models.

- The Learn Foundations programme of work in Information Services Group which is already underway to provide consistent and high quality student experience in our online teaching space.

This means that while this paper is a response to crisis, it is based on several months of futures thinking and a commitment to high quality teaching appropriate to the reputation of the university.

2. What is hybrid teaching?

In brief, hybrid teaching is not the same as ‘moving courses online’ – rather it is about making adaptations to courses which enable them to be taken by online and on-campus students working as a single cohort.

It is helpful to unpick some of the terminology around this.

- **On-campus teaching:** all course material and interactions take place on campus in face-to-face classes and synchronously.
- **Online teaching:** provision is entirely remote, often mixing synchronous and asynchronous engagement and designed to require no on-campus elements.
- **Blended and flipped teaching:** introduces elements of online to a fundamentally on-campus model, for example by asking students to work together online between lectures, or by ‘flipping’ convention (for example by delivering content such as recorded lectures and discussion papers online as preparation for more interactive group teaching on-campus).
- **Hybrid:** distinctive because it does not assume either a fundamentally on-campus or fundamentally online model, but is designed for easy student transition between the two; it does not separate online and on-campus cohorts but focuses on bringing them together.

For these reasons, it is most helpful to think in terms of **hybridity** for our Covid-19 response. Advanced hybrid teaching (as intended for the Edinburgh Futures Institute, for example) would include highly-technologised teaching spaces in which telepresent on-campus and off-campus students can work together relatively seamlessly. For our immediate COVID-19 response this is not going to be achievable on a large scale for the coming academic year, and clarity and relative simplicity are needed. While we have many lecture rooms equipped for recording and streaming, the only spaces which on-campus and off-campus students can share equally are online spaces.

The focus of this paper is therefore on a simplified model which describes how we might adapt existing courses readily to a hybrid mode. It is not about fundamental course re-design as we do not have sufficient time for this. Hybridity in the current context means adapted courses for efficient and high-quality teaching across three quite distinct groups:

1. On-campus students, co-present in time and space
2. Online students in the same time zone
3. Online students in different time zones

The three categories are not stable as students may have to shift between them, for example if the lifting of social distancing constraints is intermittent. We also need to focus on bringing students in the different groupings together, maintaining and creating strong community for the post-COVID world. This is where the hybrid approach is particularly useful: how this might work in practice for a range of key teaching activities is detailed in section 4 below.

3. Support for hybrid teaching

Because of the tight timescale we are working to, it is pragmatic that our plan for hybridity builds on existing technological and support infrastructure.

Adapting the Learn Foundations programme

The hybrid approach proposed here is simplified to build on the existing Learn Foundations programme of work, and expands on the immediate crisis response approach taken by Information Services Group. This focused on a core set of applications (Learn, Collaborate, electronic resources lists, Media Hopper Create and Replay), with Blackboard Learn positioned as the hub for teaching.

- **Learn** is the online teaching hub (also referred to as the Virtual Learning Environment, or Learning Management System) for all on-campus courses at the University. It is where students find their lecture recordings, resources and reading lists, submit assignments and receive feedback, contribute to discussion forums and other online activities.
- **Collaborate** is the virtual classroom service which allows us to host synchronous ('real time') meetings, seminars, lectures and tutorials online. It is integrated with Learn.
- **Resources lists** are online reading lists enabling easy access to digital resources for reading and research.
- **Media Hopper Create** enables us to create and upload videos, presentations and other media remotely to Learn.
- **Media Hopper Replay** is our lecture recording service and holds an archive of recordings from last year which will display in Learn.

The Learn Foundations programme of work led by ISG establishes for the University an institutional standard for the use of Learn. Studies by user experience experts in ISG demonstrated that in the past there was inconsistency across courses which contributed to a poor student experience. Students studying across subject areas, Schools and Colleges often struggled to find their course-specific resources placed in different folders, and often called different things. Without any intention to homogenise richly-diverse disciplinary practices, Learn Foundations works with colleagues in Schools to define an appropriate, institution-wide outline course structure and consistent course terminology, alleviating needless confusion caused by basic inconsistencies.

We propose here that the Learn Foundations project be repurposed as a scalable solution for moving all on-campus courses into a state where simplified hybrid teaching can take place, continuing students can be held close and we can maintain community to sustain continuation of studies. An added advantage is that Learn will give students overseas the best chance of accessing materials that would otherwise be blocked by national firewalls. This will work best if Learn Foundations is adopted across all Schools (see Annex A for summary of current adoption). The supported shift to hybrid mode will offer the following:

- Information Services Group, along with Institute for Academic Development, will include within the scope of Learn Foundations a mapping of all first semester on-campus teaching activities onto hybrid equivalents.
- Templates will support the structuring of the Course Materials section of the Learn Foundations template to support hybrid learning sequences of lectures, seminars, activities and hours of independent study.
- Additional attention will be paid to all sections, including Lecture Recordings, Resource Lists and Assessment.
 - Resources lists will target digital library materials.

- Assessment will provide model workflows for submitting and receiving assessments online.
- Academic colleagues will have access to tools to manage groups and to monitor and review student engagement.

Templates to support hybrid learning in Learn are being developed based on models drawn from online learning designs developed by University of Edinburgh course teams in ELDER (learning design) workshops and support will be available for local learning technology colleagues working in schools to engage with these templates. It is important to note that this does not mean that all teaching will be standardised – rather that Schools will be supported to shift key elements of courses into hybrid mode. Academic colleagues responsible for courses will have control over the shape and detail of provision.

Support and training for hybrid teaching

Information Services saw a huge spike in usage across all core learning technology services during the rapid online ‘pivot’ in March 2020. Eight hundred academic staff at University of Edinburgh received training as part of the emergency response. It was clear that those schools who had already adopted the Learn Foundations standard were in a better position to pivot teaching online than those who had not. Those colleagues who had experience of recording their lectures and making their own edits had a head start too. The largest demand and biggest training need was for using virtual classroom tools (Collaborate).

As well as Learn Foundations, a number of other elements of ISG activity can be repurposed to support academic colleagues and learning technology support teams in the design of an Edinburgh Model of hybrid teaching for the COVID-19 response. Focusing on coherence of student experience at a difficult time, the on-campus timetable and curriculum would be used as the basis for a mapping of online activities. Where possible hybrid approaches would focus on using the core online teaching toolset (Learn, Collaborate, and Media Hopper).

- Lecture recordings and resource lists would be reviewed for gaps in coverage, particularly in first year courses. The existing Electronic resource lists project would be accelerated, where appropriate, toward a goal of having 100% of reading and resource lists in the system.
- Approximately 60% of semester 1 courses from last year have recorded lectures. Colleagues will be supported by training to review and edit these recordings for re-use and to make new recordings from home.
- Audits of accessibility of learning materials will continue and each School will be provided with reports to support improvement in access and inclusion online.
- Designs will be repurposed from ELDER learning design sessions to inform modes of online teaching which have been tried and tested at University of Edinburgh, giving a firm grounding in appropriate pedagogy.
- Online ‘ABC’ sprints, led by school-based learning technologists and under guidance for the ISG learning design service, will lead teaching staff quickly through the process of customising the learning designs for individual courses.
- The ‘An Edinburgh Model for Online Teaching’ staff development programme will be offered to all teaching staff as an introduction to online teaching, and to give staff the experience of being an online student with a focus on communication, community and care.
- The learning technology training programme as part of the Learn Foundations project will focus on supporting the delivery of teaching in hybrid mode and the programme of remote

training developed in March 2020 will be re-run intensively over the summer. Cross-references and supplemental information from the 'Edinburgh Model' course will provide ongoing support for using the core technologies required.

- Local learning technologists in Schools will support colleagues in making discipline specific decisions about materials online.
- Communications around the support available for academic colleagues in making this shift in pedagogy will be co-ordinated with the Institute for Academic Development.
- Copyright advice and training for colleagues moving their materials online will be provided by the Library and our Open Educational Resources Service.
- Library course materials can be reviewed by course leads to consider whether only digitally-available course material can be used, supported by their academic librarian.
- Support would be provided to ensure all learning material is available in accessible formats.
- Collections of shareable and re-usable media will be made available.

Information Services will also continue to offer tools and support for teachers who want to innovate and stretch beyond the core set of tools into using video, blogs, computational notebooks, wikimedia tools and virtual labs. A rush to online delivery by many universities will see skilful course design for accessibility, quality and learning communities become key. Interoperability, licensing, copyright, IP, technical standards and open development will be as important for sharing, interchange, reuse, local adaptation of materials as they always have been.

The Institute for Academic Development will further support the shift to hybrid provision by:

- offering complementary courses and supporting course and programme design workshops
- providing additional and new training for tutors and demonstrators
- offering tailored support to individual Schools, building on current contacts and as needed
- contributing to the development of pre-arrival support and resources.
- adapting the Teaching Matters blog, the (now online) Learning and Teaching Conference and relevant staff networks to support engagement and practice-sharing linked to the implementation of hybrid teaching.

Capacity required

Most fundamentally, the response to the challenge of teaching next year requires academics as expert teachers with capacity to undertake the work. They would need to be supported by:

- local and centralised learning technologist support for hybrid course design and build – in addition to central support in ISG there are currently c.30 school-based learning technologists who can be trained to support use of a core set of applications
- increased support for learning design and ELDER from central services
- student interns and helpers to assist schools to 'lift and shift' content to Learn as needed
- subtitlers and audio typists to work with video/audio content to make it accessible.
- additional TA and technical/demonstrator support to assist in hybrid classrooms
- ISG and IAD capacity to provide training for key staff development courses, including courses for both staff and students
- sufficient capacity from central services and the Centre for Research in Digital Education at Moray House to deliver The Edinburgh Model course
- sufficient capacity for existing training and development courses to be added to Learn (using existing materials in COL, Leaps, the Library, and IAD, tailored to local needs by local learning

technologists), including: ‘English language support’, ‘Getting connected’, ‘Making the most of IT’, ‘Introduction to the Libraries’, ‘Study Skills’, ‘Academic writing’, ‘learning success online’, ‘Studying from recorded lectures’, ‘Managing your data’, and ‘Staying safe in a digital world’.

Student support

The hybrid model will create new student support needs which need to be put in place. These are beyond scope for the current paper but will include issues such as:

- helping students prepare for learning in hybrid mode, including digital and study skills
- for new students, confidence-building around becoming a university students in these unusual circumstances
- online health and wellbeing support
- guidance and infrastructure to ensure information security, safety and privacy online
- guidance on peer-to-peer support and community-building
- 24/7 library and IT support for students
- increased digital skills training (including basic digital skills)
- clear minimum laptop and IT equipment standards for students, with opportunity to buy through the university

4. Prototypes for hybrid teaching

The following simplified models suggest some ways in which key teaching activities might be adapted for the three cohort groups (on-campus and co-present, online in the same time zone, online in different time zones), with the local and centralised support outlined above. They are deliberately ‘bare bones’ starting points and are largely discipline agnostic. This means there would be many context-specific adaptations and additions driven by academic colleagues’ preferences and teaching approaches.

The approaches outlined focus on using Learn and the other core supported services discussed as hubs for activity. All assume students have access to a device for study and communication: lower bandwidth text and voice-only options will be important.

It is important to reiterate that the starting point for this is a **mapping and adaptation of current on-campus teaching activities**, not radical course re-design – we do not have enough time and capacity for the latter.

Preparation and induction

All activity is online.

Students on-campus	Students online, same time zone	Students online, different time zone
Key readings in Learn via digital library resource lists		
Induction and introduction videos in Learn		

Peer group connections to help students cohort-build enabled online: informal discussion boards in Learn; 'buddy' connections and small peer group connections organised if appropriate; social media connections if appropriate

Curriculum-appropriate online introductory exercises (automated or moderated)

Online versions of generic skills courses, e.g. English language support, Getting connected, Making the most of IT, Introduction to the Libraries, Study Skills, Academic writing, Studying from recorded lectures, Managing your data, Staying safe in a digital world (ISG, IAD, Library, COL)

Lectures

Students on-campus	Students online, same time zone	Students online, different time zone
Physical attendance in lecture if social distancing allows	Virtual attendance – students watch and engage with lecture livestream	Students watch or listen to recording depending on bandwidth; some may choose to attend streamed lecture
Students engage on lecture chat live, or use Learn discussion forums as appropriate	Students engage on lecture chat live, or use Learn discussion forums as appropriate	Students engage in discussion using Learn forums
Lecture is recorded		

There are creative ways of turning the time zone challenge into a positive, for example by asking students in a time zone ahead to curate questions in advance of a synchronous session, then asking the students in a later time zone to edit and summarise the discussion and responses.

Seminars and tutorials

Students on-campus	Students online, same time zone	Students online, different time zone
Physical attendance in class if social distancing allows	Students engage with the seminar recording and tutor-prepared task in asynchronous, small group Learn discussion forum	
Tutor-prepared task or discussion	Student leadership of these may be appropriate in some contexts (for example groups meet for further discussion in Collaborate and return to Learn with a summary and further questions)	
Seminar is 'captured' in whatever way is feasible and preferred, for example students in physical attendance create a shared digital note of the seminar, the seminar is recorded, or students create a video summary		
Students contribute to asynchronous, small group Learn		

discussion forum: forum is open for period both before and after the seminar	
<p>As an alternative, some – or even all – seminars and tutorials could take place on a ‘digital first’ basis. Rather than try to record seminars run with students on-campus in some way which enables off-campus students to access them (e.g. via a video recording, or a written record), they could be run online for all students regardless of whether they are on-campus or remote. These could be either ‘real time’ in Collaborate, Teams or other preferred medium, or asynchronously in a Learn forum, open for a period of days. Where resource allows live seminars could be run twice (at different times) to allow for time zone issues.</p>	

Computing labs

Students on-campus	Students online, same time zone	Students online, different time zone
Physical attendance in lab if social distancing allows	Structured self-study using same activities	Structured self-study using same activities
Lab activities and resources set by tutor	Responsive live tutor/demonstrator support	Responsive post-event tutor/demonstrator support
In-person, live tutor/demonstrator support	Teaching supported by computational notebooks	Teaching supported by computational notebooks
Teaching supported by computational notebooks		
<p>Where there is a desire to bring on-campus and off-campus students together, a live chat channel could be set up to support students during the lab session (this would only work for remote students in the same time zone, but would create a record for others). Additional teaching staff in the lab would be needed to manage online interactions.</p>		

Labs, workshops and studios

Students on-campus	Students online, same time zone	Students online, different time zone
Physical attendance in laboratory if social distancing, capacity and prioritisation allows; supporting virtual attendees by operating equipment, moving cameras, and discussing observations. Taking turns at being	Virtual attendance in physical lab using live video, chat and remote interfaces to equipment where available. Remainder of laboratory teaching provided by remote, virtual, and simulated labs where possible. Individual experiments or virtual lab	Students watch or listen to recording prepared by teaching and technical staff, and access recordings and data from their affiliated hybrid lab group. Remainder of laboratory teaching provided by remote, virtual, and

<p>physically and virtually present.</p> <p>Where there is insufficient capacity and no online alternative (yet), on-campus students access recordings and data from teaching and technical staff, or other students.</p> <p>Remainder of laboratory teaching provided by remote, virtual, and simulated labs where possible.</p> <p>In-person and live online tutor/demonstrator support</p>	<p>groups with students in the same time zone, mixing online and on-campus groups.</p> <p>Live online tutor/demonstrator support.</p> <p>Lab activities provided by learning technology developers, technical staff and course staff.</p> <p>Live chat channels shared by on-campus and online students in the same time zone.</p>	<p>simulated labs. Individual experiments or virtual lab groups with students in their different time zone.</p> <p>Responsive post-event tutor/demonstrator support.</p> <p>Live chat channels shared by online students where their different time zones align.</p>
<p>Social distancing reduces lab throughput. Many in-person lab facilities are over-stretched already. PPE provision to be considered to maximise capacity of facilities that offer core proximal laboratories. Claw-back capacity for those labs which <i>must</i> be done in person by developing remote, virtual and simulated experiments to support online teaching wherever possible (steady growth in capacity over time). Home experiment kits strongly discouraged on the grounds of student equality, safety, cost (delivery, return, repair, and warehousing) and sustainability.</p>		

Student group work

Groups would be engineered for cohort spirit by including a mix of on-campus and online students. Most activity would be 'digital first'.

Students on-campus	Students online, same time zone	Students online, different time zone
<p>Main focus of activity in small group spaces created on Learn: groups designed to mix on-campus and online students</p> <p>Small group meetings take place on Collaborate, Teams or students' preferred medium, and asynchronously in Learn discussion forums</p> <p>A record of group meetings and group work is created in a shared online space (for example using the university Academic Blogging Service on WordPress)</p> <p>Peer assessment through WebPA or PeerMark</p>		

Skills and professional practice

Students on-campus	Students online, same time zone	Students online, different time zone
<p>Placement experiences and professional supervision meetings where possible.</p> <p>Skills and methods teaching on-campus (hybrid where possible).</p> <p>Curated access to open, on-demand skills and methods provision (e.g. MOOCs and online courseware, online demonstrations and video tutorials).</p>	<p>Access to skills and methods teaching in hybrid mode where possible.</p> <p>Supported review and discussion of video-recorded practice of professionals, including in situ practice (e.g. in a clinical environment) where possible.</p> <p>Student peer-led practice on Teams or Collaborate, including observation of, and engagement with, on-campus learners where possible. Opportunity to submit recordings of their own skills practice for asynchronous feedback using Media Hopper.</p> <p>Support to source appropriate VR, AR, phone apps and homemade craft solutions to practice demands and materials (e.g. for simulation or deliberate practice), looking to both high-tech contexts and low resource settings.</p> <p>Supported analysis and discussion of complex practice environments using video recordings, case studies, designed scenarios, and dialogue with field experts.</p> <p>Curated access to open, on-demand skills and methods provision (e.g. MOOCs and online courseware, online demonstrations and video tutorials).</p>	

Field trips

Students on-campus	Students online, same time zone	Students online, different time zone
<p>In-person attendance where social distancing and travel restrictions allow.</p> <p>Local trips not involving overnight stays might be possible.</p> <p>Students create video blogs in the field and upload on return. Potential for peer learning with individuals or small groups following blog instructions.</p>	<p>Students engage with social broadcasts from on-campus students and/or tutors in the field.</p> <p>Tutor supported peer learning and student led alternatives in their local context or online are supported and broadcast where feasible.</p> <p>Distant (from Edinburgh) trips delivered as live broadcasts 'remote field experiences', mediated by partners and/or tutors.</p>	<p>Students engage asynchronously with social broadcasts from on-campus students and/or tutors in the field. Tutors in Edinburgh who have been in the field during recording could support at set times in the morning or evening.</p> <p>Peer to peer learning via asynchronous student led alternatives in their local context or online, supported and broadcast where feasible.</p>

<p>If live broadcast is possible - remote tutoring with students in the field linked to tutors on campus.</p> <p>Distant trips could be delivered as 'remote field experiences', mediated by partners and/or tutors.</p>		
--	--	--

Project work and supervision

Students on-campus	Students online, same time zone	Students online, different time zone
<p>Supervision meetings on-campus where possible; otherwise taking place in Collaborate, Teams, phone or other as preferred.</p>	<p>Scheduled supervision meetings in Teams, Collaborate or on the phone</p> <p>Student peer-led meet-ups on Teams or Collaborate</p> <p>Email and shared documents for drafting</p>	
<p>Email and shared documents for drafting.</p>	<p>Access to research skills and methods teaching in hybrid mode where possible</p>	
<p>Research skills and methods teaching on-campus (hybrid where possible)</p>	<p>Curated access to open, on-demand skills and methods resources, for example relevant MOOCs and online courseware, Sage Research Methods, LinkedIn Learning</p>	
<p>Open, on-demand skills and methods provision (e.g. MOOCs and online courseware)</p>		
<p>Curated resources (e.g. Sage Research Methods, LinkedIn Learning)</p>		

Annex A: current adoption of Learn Foundations

The below table details a breakdown of the estimated course volumes (based on the 18/19 figures*) for each School against the expected adoption phase.

College	School	Phase One Re-Adopting	Phase Two Adopters	Phase Two/Three Adopters	Phase Three Adopters
College of Humanities and Social Sciences (CAHSS)	Edinburgh College of Art			566	
	School of Divinity	111			
	Moray House School of Education		212		
	School of Health in Social Science				113
	School of History, Classics and Archaeology	295			
	School of Law				192
	School of Literatures, Languages and Cultures		583		
	Business School	241			
	School of Philosophy, Psychology and Language Sciences				288
	Centre for Open Learning	68			
	School of Social and Political Science				356
	School of Economics			53	
College of Science and Engineering (CSE)	School of Biological Sciences		150		
	School of Chemistry		71		
	School of Engineering		296		
	School of Geosciences	225			
	School of Informatics		125		
	School of Mathematics				119
	School of Physics and Astronomy		96		
College of Medicine and Veterinary Sciences	Edinburgh Medical School	11			
	Royal (Dick) School of Veterinary Studies				95
	Deanery of Biomedical Sciences		198		
	Deanery of Clinical Sciences		226		
	Deanery of Molecular, Genetic and Population Health Sciences		62		

Total course volume per adoption criteria	951	2072	566	1163
Total course volumes	4752			

Phase One School % of Courses to be Migrated	20.01%			
Phase Two School % of Courses to be Migrated		43.60%		
Phase Three School % of Courses to be Migrated			11.91%	24.47%

*20/21 figures for Schools adopting within Phase Two/re-adopting from Phase One will be confirmed as part of the implementation plan.

Annex B: Immediate and longer-term technology responses

COVID-19 has almost certainly accelerated a general move within universities to more online teaching and digital education. We should ensure that our immediate response to this crisis is consistent with longer-term vision and planning as defined both in the Near Future Teaching project and in Information Services planning. This annex focuses on technical responses to these immediate and longer-term needs.

Longer-term planning

Longer term we need to be planning for the following. ISG is currently writing up a detailed proposal for each of these with costs. These will form part of an overall linked proposal on the technology needed to support the shift in Semester 1 and longer term.

- equipped lecture theatres and classrooms to enable more advanced hybrid approaches, dependent on telepresence between on-campus and off-campus students (for example pervasive audio, seamless in-classroom videoconferencing, telepresence robots, mobile and agile applications for virtual fieldtrips and enhanced telepresence)
- advanced virtual labs and simulations
- all materials used in courses to be available digitally or digital on demand
- all learning materials in accessible formats
- full 24/7 IT support model for students across the globe
- minimum IT standard for student machines, minimum broadband standard for students
- scaled training for all staff in new online, blended, remote and hybrid teaching methods
- additional recording studios and the technical staff to support them, as well as standards and self-training materials
- additional learning technologists
- additional and/or reskilled digital librarians
- additional study skills, library tours, guides and digital literacy courses online
- increased integration of media collections such as ‘Box of Broadcasts’
- supported social broadcasting
- extended digital humanities support
- virtual object-based learning
- text and data-mining platforms and tools for wider and easier use by students and educators
- a university-wide computational notebooks service will be needed to provide the necessary unified space for data science and analytics learning, teaching and project activity
- central support for colleagues using GitHub and others for computational teaching
- increased and more nuanced use of learning analytics and engagement tools
- increased protection of University data and digital services from cyber-attack

Re-purposing and acceleration of current Information Services programmes

To align to the University recovery plan and prepare us for emerging Semester 1 plans ISG intends to re-purpose and accelerate the following programmes of work.

- Learn Foundations as described in the body of the document
- key aspects of the Distance Learning at Scale programme such as:
 - Online course project management
 - OnTask (Learning Analytics)
 - Quality assurance and accessibility

- Media production
- purchase of a corporate version of Zoom, rollout and ISG support
- electronic reading and resource lists
- ELDER learning design
- library materials including transnational licensing
- 24/7 Library and IT support including more automated methods such as chat-bots, wizards and FAQ sheets
- increased use of virtual Open Access computing labs
- EdHelp – the combined on campus and online unified support service for students providing IT, Library, Finance, Student Admin and HR support for students.
- Notable (computational notebooks)
- Increased use of virtual application delivery (Apps.Ed) – the virtualisation of applications to provide on-demand remote access to staff, researchers and students.
- digital library
- digitisation on request
- library Materials digitised and for transnational education
- computational research
- digital humanities support
- additional skills courses to be added to Learn (using existing materials in COL, Leaps, the Library, and IAD tailored to local needs by local learning technologists), including: ‘English language support’, ‘Getting connected’, ‘Making the most of IT’, ‘Introduction to the Libraries’, ‘Study Skills’, ‘Academic writing’, ‘learning success online’, ‘Studying from recorded lectures’, ‘Managing your data’, and ‘Staying safe in a digital world’.

Potential new ISG projects or initiatives

Additional potential new initiatives or projects aimed at supporting hybrid teaching need to be prioritised for semester 1 delivery:

- video and audio for truly telepresent, live hybrid teaching
- remote desktop migration project to address the current unsustainable method of remote desktop for home working
- start of term service catalogue and student advice
- clearing - up to 120 to 150 staff answering phones. Looking at a cloud, remote, distributed phone capability
- e-exams software and invigilation
- integrations of ‘Piazza’ into learn
- chat bot support service
- ‘online Open Access labs’ expanded VDI service
- remote access to collections
- virtual labs and virtual microscope
- AR/VR for research-led hybrid teaching
- research skills and methods including additional online material (such as from SAGE) to support research methods teaching
- domain-specific tool sets
- media production studios
- text and data mining service