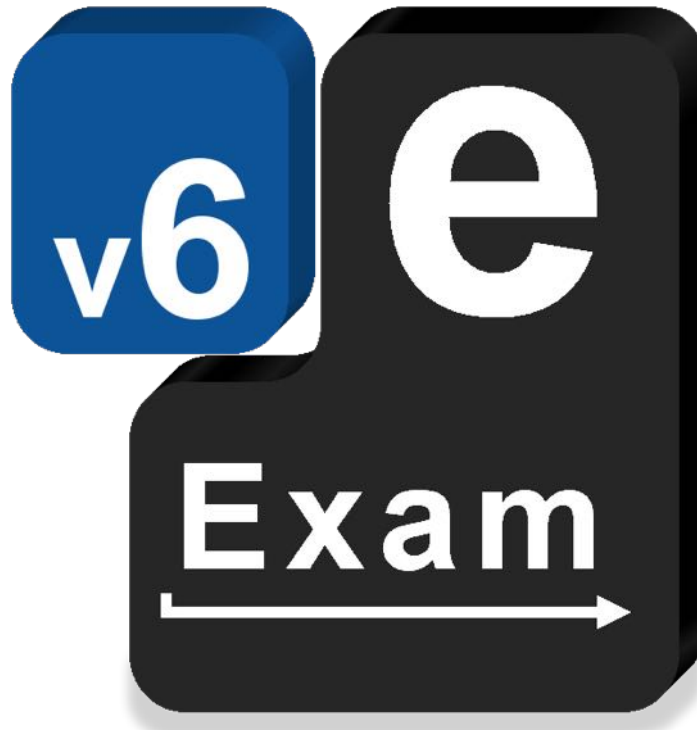


Organising e-Exams Guide



e-Exam System v6

This document provides:

- Timeline and roles for running e-Exams
- Room set up
- IT support staffing ratios
- Power cable layout
- Announcements to candidates
- FAQs for students by timeline stage

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The views expressed in this document do not necessarily reflect the views of the Australian Government Department of Education and Training or participating institutions.

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Contents

Introduction	1
Further reading	1
Timeline and roles for running an e-Exam	3
Before semester starts.....	3
Week 1	3
Week 4 (exam file due date)	4
About week 7	4
About week 10	5
Week 11	6
The day prior to e-Exam: venue set-up	6
Exam day: at least 60 mins before start.....	6
Exam day: 15 mins before start.....	6
Exam day: commencement of exam	7
Exam start time.....	7
During exam	7
At end of exam.....	7
Post-exam.....	7
Power layout in exam halls	8
Recommended IT support staffing in exam halls	8
Announcements to candidates.....	10
FAQs on exam procedure for students.....	13



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Introduction

This document outlines a timeline and defines the roles of departments (exams office and IT support) and individuals (teacher, student, administrative officers) in organising and running e-Exams based on a centralised examinations office model. Advice for IT support staffing and setting up exam venues with power cables is provided.

Background

As education increasingly uses information technology, students are uncomfortable with the disjunction between learning online and protracted hand-written examination assessment. Yet in the digital age, it is also difficult to authoritatively attribute authorship for non-supervised assessment such as word-processed assignments. The use of sophisticated software applications in non-supervised assessments (projects and assignments) contrasts greatly to pen-on-paper commonly used in supervised examinations in terms of allowing assessors to set complex, authentic problems and for students to demonstrate their best when employing contemporary e-tools of the trade. An e-Exam allows relevant, sophisticated, modern software tools and the integrity of a well run supervised examination to be bought together.

The e-Exam System allows candidates to use their own personal computer just as they have previously used their own writing implements in examinations. These computers are started up (booted) from a special e-Exam USB stick for Windows PCs and Apple Macintosh platforms. The e-Exam USB contains an operating system based on Ubuntu (a Linux-based operating system) 'e-Exam OS' and a set of software applications. As such all exam candidates will be using the alternative operating system 'e-Exam OS' on their computer instead of their regular Windows or Apple software. The e-Exam operating system 'locks down' the computer by interdicting all communications and local disk access to ensure each candidate the same opportunity of demonstrating achievement within a controlled software environment. To help exam invigilators the system displays a unique desktop image for non-technical staff to easily verify the correct exam and system is in use. The process of using an e-Exam USB leaves student's computer completely untouched and as such does not write, change or delete any data on their personal hard drive.

e-Exam use at UTAS

The University Teaching & Learning Committee received the final report on the e-Examinations Project, led by Dr Andrew Fluck, Faculty of Education, on 4th March 2011. Trial e-Examinations had been introduced into the Faculty of Education in 2006, making national headlines in 2009. In 2010, the e-Exam System was used successfully in the UTAS Faculties of Law, Arts and Education on the Cradle Coast and Launceston campuses with cohorts of up to 89 candidates. Academic Senate endorsed the use of e-Examinations and recommended that Heads of School and Unit Coordinators consider where these are deployed and how students are to be advised. The e-Exam System has been in use at the University of Tasmania since then, sometimes in non-formal settings.

Thanks are extended to those kind members of staff who have commented on this manual and thus improved it.

The software is available under an open source licence from the AARNET Mirror at <http://mirror.aarnet.edu.au/pub/e-Exams>.

Further reading

The following articles outline the rationale and progress on the development of e-Exams.

Fluck A, & Hillier, M. (2016) Innovative assessment with e-Exams. *Australian Council for Computers in Education Conference*, Brisbane, 29 Sep to 2 Oct. Available <http://conference.acce.edu.au/index.php/acce/acce2016/paper/view/34/27>

- Fluck, A, (2009) Towards Transformation: e-Examinations for ICT-enabled Learning Outcomes. *Education and Technology for a Better World*, 27-31 July 2009, Brazil, pp. 1-10. Available http://www.ifip.org/wcce2009/proceedings/papers/WCCE2009_pap44.pdf
- Fluck, A., Pullen, D.L. and Harper, C. (2009) Case study of a computer based examination system. *Australasian Journal of Educational Technology*, 25 (4) pp. 509-523. Available <http://www.ascilite.org.au/ajet/ajet25/fluck.pdf>
- Fluck, A, 'Can Tertiary eAssessment change secondary school cultures?', *Proceedings of the Computer Aided Assessment Conference* on 10th & 11th July 2007 at Loughborough University, 10-11 July 2007, Loughborough University, pp. 191-206. Available <https://dspace.lboro.ac.uk/dspace-jspui/bitstream/2134/4544/1/Fluck%20A.pdf>

Timeline and roles for running an e-Exam

The following outlines an example timeline and duties (roles) for teaching and administration staff in relation to preparing for an e-Exam. The procedures are not inclusive of all examinations management activity but instead focus on those elements relevant to e-Exams. These procedures will need to be adjusted to suit your local institutional context. The suggested procedures and timeline are outlined as used by the University of Tasmania based on examinations being organised and invigilated in centrally managed exam venues. This example is for an off-line word document mode exam.

Before semester starts

<p>Planning</p> <p>Unit coordinator decides to make e-Exam available to candidates.</p> <p>Consider if typing will be mandatory for all, or an option? What are the criteria if the latter? A common instruction to students is to “choose the writing tool you consider will give you the best advantage.”</p> <p>You need to:</p> <ul style="list-style-type: none"> • Consult the Exams Office to confirm with Information Technology Services the feasibility of running an e-Exam for your unit. • You need the agreement of the Head of School and a defined method of offering an alternative to students. • Include mention of the e-Exam in the Course and Unit handbook description of the unit. 	<p>Unit coordinator</p>
<p>Unit outline</p> <p>Unit coordinator needs to add following text into the unit outline or synopsis adjacent the relevant assessment task. Add or remove elements in <braces> as applicable.</p> <p style="padding-left: 40px;">This assessment will be offered as an e-Exam. The e-Exam will be <compulsory><optional> for students.</p> <p style="padding-left: 40px;">You will need a laptop computer which can boot from a USB stick for the examination. The laptop will require a minimum 10" screen, at least 2GB of RAM and an Intel processor. <The e-Exam will include multimedia therefore a set of earphone will be required>. You may also bring a wired mouse. You must bring the mains power adapter.</p> <p style="padding-left: 40px;">You will need to obtain e-Exam Certificate for the laptop. You will not be permitted to start up your computer at the venue without the e-Exam Certificate. To obtain this certificate students will need to test that their laptop will work with the e-Exam system. To do so students can create a practice e-Exam system by downloading the e-Exam practice software and then writing the system to an empty USB with a minimum capacity of 8GB (note this process will overwrite any data already on the stick). Please refer to the e-Exam section of the University website for details on how to get ready for the e-Exam http://www.utas.edu.au/exams/e-Exams/e-Exams-for-students.</p>	<p>Unit coordinator</p>

Week 1

<p>Informing students</p> <p>Discuss e-Exams with students providing an outline of the exam conditions, dates, practice session times (if applicable), how the process works and the requirements for suitable laptop (as per the course information).</p> <p>Advise students that they are expected to be familiar with general user functions within the e-Exam system software with respect to using the e-Exam system with their laptop and to achieve the workflow required for the type of exam they will be undertaking. Be sure to explain these requirements (e.g. offline word document, or spreadsheet or online via an LMS etc).</p> <p>Point students to the self-help resources provided by the university (or the more generic 'Prep and Practice Guide' from TransformingExams.com).</p> <p>Advise students that they will need to:</p> <ol style="list-style-type: none"> 1. Obtain an 8GB or larger USB stick. 2. Download their own practice e-Exam (system disk image file) 3. Create their own e-Exam USB (burn image to USB). 4. Undertake the student e-Exam certification process with the laptop they intend to use for the e-Exam. 	<p>Lecturer/ Tutor</p>
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Week 4 (exam file due date)

<p>The exams file</p> <p>Exams File is sent to the UTAS Exams Office. Include the following codes:</p> <ul style="list-style-type: none"> • Materials Allowed: LA – a laptop computer with at least 2GB RAM and an Intel processor for the e-Examination with the appropriate mains adapter/charger, a wired mouse and headphones. • Materials Provided: US - USB Drive containing the e-Exam System, exam materials and space for answer script. 	<p>Unit coordinator & Course support officer</p>
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About week 7

<p>Preparation of e-Exam question paper</p> <p>Write your exam paper in the normal way.</p> <p>Create a second copy of the exam paper file (in WORD format) with these changes:</p> <p>a) At the top of the first page insert this material:</p> <table border="1" data-bbox="167 425 1101 533"> <tr> <td data-bbox="167 425 890 479"></td> <td data-bbox="890 425 1101 479">Questions: nn</td> </tr> <tr> <td data-bbox="167 479 890 533">Type your ID number here:</td> <td data-bbox="890 479 1101 533">Pages: e-Exam</td> </tr> </table> <div data-bbox="167 533 722 689" style="border: 1px solid black; height: 70px; width: 348px;"></div> <p>b) After each question or part-question, insert this line where you want a response:</p> <p><u>Please write your answer below this line</u></p> <p>Note: the two lines underneath should be in a different font to that used for the questions themselves. Typically questions will be in Times New Roman (like this) and therefore answers should appear in Arial. Font size for answers should appear somewhat bigger than that for questions (like this). Alternatively, dark blue text can be used.</p>		Questions: nn	Type your ID number here:	Pages: e-Exam	<p>Unit coordinator</p>
	Questions: nn				
Type your ID number here:	Pages: e-Exam				

About week 10

<p>Practice e-Exam</p> <p>Encourage students to visit the university e-Exams website and follow the instructions to create a practice e-Exam, verify operation on their own computer, and print their e-Exam Certificate. They will not be allowed to start up their computer in the exam venue without this certificate.</p>	<p>Unit coordinator</p>
<p>Submission of exam question paper</p> <p>Provide the following to the Exams Office via the InSite secure database:</p> <p>a) The question paper in WORD format as described above in <i>Preparation of e-Exam question paper</i>. If additional digital data will be provided to students, then this should be placed in a folder called 'Materials' and zipped up with the WORD document. Name this ABC-s-20yy-e-Exam.zip.</p> <p>b) an equivalent PDF question paper (even if the e-Exam is mandatory, this will be used as a backup).</p> <p>c) A digital photograph of your choice to be used as a security image on the desktop background.</p> <p>d) An estimate of the number of students expecting to use a computer for the exam at each venue.</p>	<p>Unit coordinator & Course support officer</p>

Exams Office to identify campus sittings, and commence negotiations with interstate distance examination centres to assess feasibility of distance sittings.	Exams Office
For isolated students (i.e. students who are not sitting an exam at one of our approved partner institutes - see https://forms.afp.utas.edu.au/distantexamination.html), students will need to negotiate feasibility of e-Exam directly with nominated venue.	Some students

Week 11

<p>USB creation</p> <p>Create a Master USB for the e-Exam using:</p> <p>a) ITS internal manual for e-Exam operations (PDF 7.3MB) OR b) The e-Exam Admin Tool USB provided (see 'Admin tool guide' documentation at http://www.transformingexams.com/guides.html)</p>	ITS staff working under secure conditions for Exams Office
<p>Duplicate enough e-Exam USBs to serve all the students expected to require them, plus an extra 10% per venue. To do the duplication:</p> <p>a) Use NexCopy job CopyDevice-Dtoall-ShortImageV.ini This will verify the data - dongle required. OR b) e-Exam Administration tool. Using the 'Duplicate USBs' function or the procedures to 'recycle' USBs (See Admin tool guide).</p> <p>Verify operation of one USB in each batch (and re-write this test USB).</p>	ITS staff working under secure conditions for Exams Office
Distribute e-Exam USBs to venues with sufficient copies of the <i>e-Exam Candidate Instructions</i> [see Appendix] to examinations centres. The latter can be laminated and re-used.	Exams Office

The day prior to e-Exam: venue set-up

<p>Venue set up:</p> <p>Deploy sufficient mains electricity extension cables and multi-way adapters for each e-Exam candidate to access a (filtered) power socket at their seat.</p> <p>See the section 'Power layout in exam halls' for further information on layouts to minimise trip hazards and maximise access.</p> <p>Staffing IT support:</p> <p>See the section 'IT staffing levels in exam halls' for suggested ratios of IT staff for set-up and support during e-Exam events.</p>	ITS staff working for Exams Office
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Exam day: at least 60 mins before start

Attend the exam venue with your laptop, e-Exam Certificate, and mains power adapter, wired mouse (no wireless devices permitted) and headphones (please note that headphones cannot be 'smart' devices).	Students
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Exam day: 15 mins before start

Distribute a USB drive and the " <i>e-Exam Candidate Instructions</i> " to each e-Exam candidate desk. Note you have a printout of the reference security image to compare against student desktops when they start up their computers.	Exam supervisors
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Exam day: commencement of exam

Immediately on entry of students, those undertaking an e-Exam are directed to the designated e-Exam area. On arrival at their desk, Exam Supervisors will check each student's e-Exam Certificate. When students have been checked they can plug in their computers and start up. ITS to undertake standard assistance if required. Refer to the 'announcements to candidates' section for a script of announcements for mixed e-Exam sessions.	Exam supervisors & ITS officers
Attend the first 15 minutes of the e-Exam as you would normally, liaising with supervisors if clarification of questions is needed.	Unit coordinator

Exam start time

Run the exam as normal. See the section "Announcements to candidates" for a script of announcements suited to mixed e-Exam and handwritten venues.	Exam supervisors
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During exam

As you check candidate ID cards, record the number on each USB stick against their name on the attendance roll.	Exam supervisors
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At end of exam

Write your ID number on the labelled plastic bag and sign it. After shutting down your computer, place the e-Exam USB into the bag and seal it.	Students
Treatment of answer scripts: Collect and acquit USB sticks as if they were Answer booklets.	Exam supervisors

Post-exam

Return all other materials, USBs and papers to the Exams Office in the normal way.	Exam supervisors
Collected e-Exam USBs are to be couriered to the unit Exams Office marking location.	Exams Office
Use the USB duplicator to collect <u>all</u> the contents of the Answer partitions. Use: a) NextCopy Collect-Answer-Scripts.ini . OR b) e-Exam Administration tool to 'retrieve responses from USBs' (See Admin tool guide). Place all files into a single folder named with the unit code for the exam. If possible/appropriate, provide sub-folders with: <ul style="list-style-type: none"> The date of the exam Exam venue/campus location 	IT officers working for the Exams Office
Return all answer booklets and a copy of the digital answer script folder to the unit co-ordinator in the normal way. The USB sticks may be needed for another exam, but until then hold them separately.	Exams Office

<p>Marking</p> <p>Collect answer script papers and files from the Exams Office. Mark these as normal – the digital files can be marked on screen or printed.</p>	<p>Unit coordinator</p>
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Power layout in exam halls

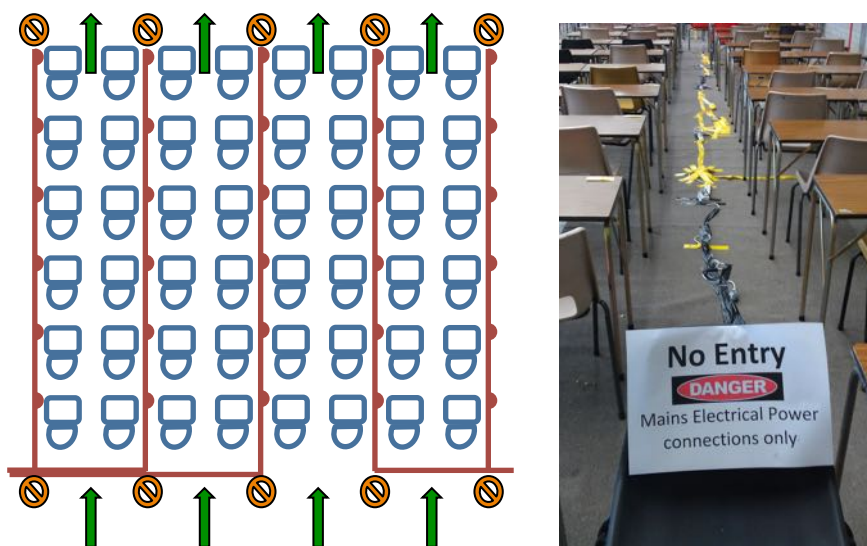
It is recommended that the day prior to the exam event that power cables and sockets be set up in venues. Power sockets should be provided to each student seat or pair of seats. Using extension cables and multi-socket power boards/blocks can be used.

It is important that power cables be laid in a manner as to maintain safety for staff and students and avoid trip hazards.

Exam invigilators and staff must be able to access every candidate without treading on wires.

Where exam desks are arranged in rows and columns. The recommended power cable layout is to use alternate columns (or alternate rows) for laying power cables. That leaves every other row for person circulation. This layout allows invigilator access to each student while avoiding trip hazards.

See diagram and example image below.



Recommended IT support staffing in exam halls

It is recommended IT support staff be on hand at exam venues.

Level 1 IT support officers is all that are required in most cases. The most common issues encountered relate to starting up (booting) laptops from an e-Exam USB (a Live Linux USB stick). In the cases on networked e-Exams this may also include connecting to networks (WiFi). Familiarisation with the e-Exam operating system, utilities and applications is required but is much less frequently called upon (e.g. adjust screen resolutions, sound, reconnect WiFi). Students are expected to be familiar with general user functions within software with respect to using the e-Exam system with their laptop and to achieve the workflow required for the type of exam they will be undertaking on the day.

It is expected the e-Exam system USBs and servers (where applicable) will be established and tested well before the exam session.

The table below outlines the recommended IT support staffing ratios at each stage of an e-Exam session used by University of Tasmania. The example is for non-networked (fully offline) e-Exams.

These ratios may need to be adjusted for early stage e-Exams sessions where e-Exams are first being introduced within the institution.

Large venues should be prepared the day before the e-Exam session (if possible) to reduce the need for contingency requirements.

IT Services e-Exam Support Requirements per 100 candidates

	BUMP In and Out A once only task per 3-week exam period i.e. covers all e-Exams at a venue. - Lay power cables in segregated aisles.	Boot-Phase - 10 minutes prior to e-Exam start. - 20 minutes following e-Exam start.	During e-Exam* - escalation only.
IT Staffing at venue	2 x IT staff for 30 minutes (unless Bump In or Out is scheduled during a short lunch break, then 6 x IT staff may be required).	1 x IT staff for 30 minutes.	None (on call).

* During early stage e-Exams (initial pilots and early introduction) it is recommended that a single IT staff member be present for the duration of the e-Exam.

Note:

IT officers need to be briefed as to the protocols of working in an exam room space. This includes speaking in a low voice, having phones on silent (or flight mode if possible) and quiet and unobtrusive movement (not bumping desks).

Announcements to candidates

The following provides an example of a run sheet and announcements that a head examination invigilator (supervisor) will make during the course of an exam session. This example was used in cases where e-Exam and handwriting candidates were in the same venue.

Announcements to Candidates Concurrent e-Exam and Paper Exam

Arrange the examination area so that all students requiring access to mains power will be able to plug into a socket. IT Support Officers will ensure cabling is laid with multi-port outlets so all students have access to mains power. You will have dedicated lanes free of wires to access every candidate desk.

Distribute to each student desk:

1) an individually numbered USB.

2) a copy of the e-Exam Candidate Instructions.

DO NOT distribute any printed copies of the security image to students.

All students should be admitted 15 minutes prior to the start of the examination.

e-Exam candidates bringing a laptop must produce their e-Exam Certificate before they sit down or plug in their computer, and should be instructed as follows:

1. Follow the e-Exam Candidate Instructions. STOP and WAIT when you see a prompt for your ID number.

Check that every e-Exam participant computer desktop displays the security image. You will have been provided with a printed copy of this image, which is not to be given to candidates.

When all candidates are seated, the following announcements should be made:

2. Place your current ID card on the right-hand side of the desk. All students without a current identity card please raise your hand – you will now need to go to the Student Centre for your replacement card. (UTAS Distance/Online students please provide another form of photo ID).
3. Today we will be running an e-Exam [trial].
4. Please note that mobile phones and smart devices, including smart watches, are now banned in all University of Tasmania examination venues. Penalties apply for bringing mobile phones or smart devices to an exam venue. If you have a mobile phone or smart device in your possession, please raise your hand now. This is the only opportunity to depart the venue and remove the unauthorised device. Again, please raise your hand now if you have a mobile phone or smart device on you.
5. Please check that you have no unauthorised material in your possession. Any unauthorised material found after the examination starts will be regarded as possible evidence of cheating or attempting to do so. Please hand any unauthorised material to a supervisor now.
6. Students may not leave the examination room until 30 minutes after the end of reading time, and may not leave during the last 15 minutes of the examination.
7. For those following a paper-based exam, you should write on both sides of the page. Any page may be used for rough work. Just draw a diagonal line through that page to indicate that it is not part of an answer. Books will not be issued for rough work, and no pages should be removed from books or question papers. All question papers must be handed in.

8. If you wish to leave the room early or require the assistance of a supervisor or an IT Support Officer, please raise your hand. I will give you a 15 minute warning before finishing time.
9. For those completing a paper based exam, you may go ahead and fill in the cover of your question paper and answer books. If you have to alter your student ID number for any reason, please raise your hand, and a supervisor will check and initial the alteration. If your exam allows a calculator, write the brand and model in the space provided.

16 minutes prior to the start of exam writing:

10. We are about to begin the 15 Minutes of Reading Time. For those completing a paper based exam, you may write on your question paper and answer book during Reading Time. For those completing an e-Exam, you can enter your ID number and click on 'Start Exam'.
11. Your reading time starts now.

Note the start of reading time on the display board. Patrol the room until 15 minutes have passed.

Ask the IT Support Officers to assist any students having difficulties. Record any difficulties encountered.

12. I will give you a 15 minute warning before finishing time:
The 2 hour exam will finish at 3.15pm [and the 3 hour exam will finish at 4.15pm.]
Your examination writing/typing time officially starts now

During the exam, patrol the room as normal. Students are permitted a wired mouse and earphones [not 'smart' ones], but are not permitted any other digital materials in the e-Exam, so any foreign USB sticks or digital devices are not allowed. Deal with instances as per the normal regulations if a candidate is found to have unauthorised material. Ask an IT Support Officer to verify any item of which you are uncertain.

When there are 15 minutes remaining, advise the students:

13. You have 15 minutes remaining. For those completing an e-Exam, you will need to check your file is in the ANSWERS partition of the USB stick at the end of the examination.

When there are 5 minutes remaining, advise the students:

14. You have 5 minutes remaining. For those completing an e-Exam, you will need to check your file is in the ANSWERS partition of the USB stick at the end of the examination.

At the end of the examination, advise the students:

15. Please stop work now. For those completing an e-Exam, close all applications. If you require an IT Support Officer to verify your file is saved properly, raise your hand and wait patiently.

Allow the IT Support Officers to validate any files.

16. For those completing a paper-based exam, place your question paper, notes, graphs and any follow on books inside the cover of your first answer book.
17. Please remain seated and no talking until all books and USBs are collected and you are asked to leave.

When all e-Exam queries have been addressed, advise the students:

18. For those completing an e-Exam, shut down your computers. When this is completed, remove the USB sticks which will be collected.

When all books and USB sticks are collected, ask if anyone has a question paper, graph, notes or answer book left on your desk. Advise students:

19. Thank you. You may receive an invitation to undertake a short survey in the next few days and we would appreciate your assistance with this process. We have a survey for both e-Exam participants, and for students following an ordinary paper based exam. Your contribution to the survey is highly valued. All students may leave the room.

Technical problems

A candidate experiencing technical problems should be directed to an IT Support Officer. The candidate may subsequently request a printed question paper and answer booklet, which should be collected at the end. Any period taken to rectify a technical problem should be added to the candidate's total examination time. Evidence of this will be a signed note from the IT Support Officer attesting to the extra time required.

Late arrivals

Candidates arriving 30 minutes or more after the commencement of the examination writing time shall not be admitted.

Early finishers

Candidates may not leave in the last 15 minutes of writing time. Those who finish earlier will need to have their USB stick collected.

FAQs on exam procedure for students

Most e-Exams are comfortable and convenient, but here is how to cope....

Student activity

Mitigation procedure

Before the e-Exam

My unit coordinator says I can use my computer in the exam!

I just need to certify my laptop and my own skills. But I can't download the certification package to make a practice e-Exam USB.

The certification package can be downloaded from the AARNET mirror or the UTAS web-sites. It's fast and without cost on campus. Attempt the download at least once, but no more than three times.

If you cannot download this package at least a month before your e-Exam, post a good quality USB covered in a piece of bubblewrap in a Tough Bag to the unit coordinator with a stamped, self-addressed Tough Bag. A practice e-Exam USB will be returned to you.

I'm trying to boot my computer from the practice e-Exam USB, but it's not working.

Access the help guides on the UTAS web-site or at transformingexams.com. If nothing works, your computer may be incompatible and you will have to handwrite answers from the printed version of the question paper. You may elect to borrow a different laptop, but it must be certified as well.

I got the practice e-Exam USB booted up, but something froze up halfway through.

Just re-boot your laptop again. The e-Exam System autosaves every 2 minutes, so you'll be able to carry straight on.

During the e-Exam

I can't get my computer to boot up from the e-Exam USB, even though I practiced this before!

The exam hasn't started yet, so don't panic. Raise your hand and an IT officer will assist.

My computer still won't start up properly OR they forgot to give me a USB stick!

Raise your hand and get a spare USB and try again. Or you can ask for printed copy of the exam questions from a supervisor and elect to handwrite your answers.

I got started and went really well. Then my computer crashed and I can't get it to go again...

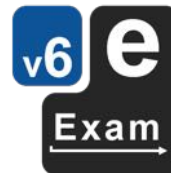
Raise your hand and get the written form of the exam questions, then handwrite your remaining answers. Hand in both the USB AND the answer booklet.

After

I didn't get the result I expected in the exam – how can I review the paper?

Follow the normal procedures to request a review and a chance to view your answers. A printout of your e-Exam responses will be made available, with a chance to view the files which were assessed.

eExam Candidate Instructions



Before you arrive

- Your computer must be completely shut down (not sleeping: SHIFT>Shutdown on Win10).


When you reach your seat

- Show your eExam Certificate to the Supervisor.
- Position your computer and connect the power adapter if required.

Before start up... the computer must be OFF (shut down)

The e-Exam system should now start ...

Apple[#] laptops

1. Insert e-Exam System USB stick.
2. **Power ON** while holding down the **Alt/option** key... *keep holding Alt.*
3. Use arrow keys to select  Yellow 'EFI' icon.
4. Press the [Enter] key to choose it.

Windows* laptops

1. Insert e-Exam System USB stick.
 2. **Power ON** and repeatedly tap the '**one-time boot key**' (see *list overleaf*).
 3. Keep tapping the one-time boot key until the boot menu appears.
 4. Select the USB device - use arrow keys to choose.
 5. Press the [Enter] key to choose it.
- * *Note* some Win8/10 laptops require SHIFT > Restart to select USB to boot.

Note: the screen may flicker and messages may appear. On some computers it may take a minute or two to load.

e-Exam desktop

When the computer is ready you will see:

- A photograph as the desktop background.
- A request for your student ID number .



A supervisor will now check screens. **Raise your hand if you experience technical difficulties.**

Continue only when instructed...

1. Type your student ID number into the box, then
2. Click "Start Exam"

The question paper should now open, ready for your responses.

1. Type your details into the space(s) indicated on the first page
2. Follow the instructions specific to your exam.
3. Type your answers into the spaces indicated.

Important! Remember to use *File > Save* at regular intervals.

Note: an 'auto recovery' save occurs every **2** minutes.

When you are finished writing

1. Use *File > Save* to ensure everything is saved.
2. Use *File > Exit LibreOffice* to close the word processor.

It is your responsibility to ensure your answers are properly saved into the 'Answers' area – Click the "Answers" button and check the file is correctly saved with your student ID prefixed to the file name. Ask a supervisor if in doubt!

When you are ready to submit your exam

1. Shut down your computer using the red "Shut Down" button in the left-side menu bar.
2. Remove the USB stick from your computer.

Follow the directions given by the supervisor to:

- a) Wait and hand back the USB stick **OR**
- b) Leave it on the desk.

NOTE: Time credit will be granted for any technical support issues, **no candidate will be disadvantaged through problems with eExam equipment.**

Apple models with the T2 chip (2018 onwards) need 'secure boot' to be disabled: Hold down Command+R at power-on. Then use Utilities > Startup Security Utility. Set 'Secure boot' = 'no security' & 'External boot' = 'allow'. This will not harm the computer or put it at risk.


Windows: List of One Time Boot Keys

▶ See the reverse side

Example desktop: yours will vary



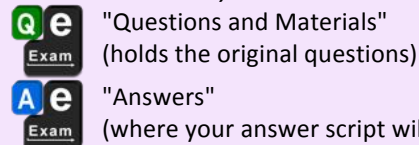
Retina / Hi Def Screen – tiny text?

▶ Dash Home  > type "Displays" > Press 'Enter' key. Then change to a smaller resolution.

Note, just in case!

These two buttons on the left-side menu bar allow manual access to files.

Do **NOT** click these yet.



Need to draw diagrams?

▶ See the reverse side of this sheet!

Be sure to close down properly...



On the left side button bar, click the red "Shut Down" button then confirm the action.

Project contact on the Web:
TransformingExams.com

Technical Help

Laptop Requirements:

Intel 64bit processor, 1 or more standard USB Type A ports, 2GB RAM, built-in keyboard.

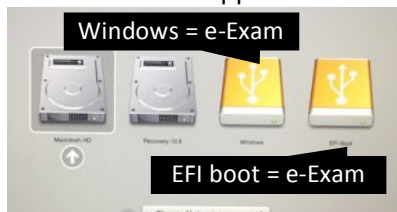
Note! Please create and use a practice eExam USB or attend a practice/preview session to ensure you can boot the e-Exam USB on your laptop prior to coming to the exam. You **MUST** print an eExam Certificate to use your laptop in the eExam. A *wired* USB mouse recommended (wireless devices prohibited). Re-plug this in if the pointer does not move.



Apple Intel laptops

[Note: most Apple MacBooks with USB-C ports are not compatible.]

1. The power must be off: use **Shut Down**.
2. Now insert the e-Exam USB stick.
3. Hold down the Alt/Option key while pressing and releasing the power button. Keep holding the Alt key until...
4. The boot screen appears. Choose a yellow drive icon: First choice "EFI boot", second choice "Windows".

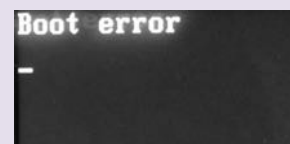


If all is well the e-Exam System will start.

Note! The correct choice varies between Mac models!

If you see "Boot error", please try again.

Power down and start at step 1 again – be sure to choose the other yellow drive icon!



Intel 'Windows' Hardware

[Notes: Microsoft surface pro/book and Chrome books are not compatible]


Starting all brands

[Some Win8/10 machines require you to use SHIFT > Restart to access USB boot option]


1. The power must be off: use **Shut down** (in Win8/10 - hold down the **SHIFT** key while selecting **Shut down**).
2. Now insert the e-Exam USB stick.
3. Then power on while tapping your '**one time boot key**' ... until the relevant menu appears – then select the USB. The correct 'one time boot key' or 'set up' *may* be displayed briefly after power on. See list of common boot keys:

Brand	Model	One Time Boot Key	BIOS Set-up Key
Acer	All (may need to disable 'quick boot' in BIOS).	F12 (Aspire: need to enable 'external devices' or 'boot menu')	Del, F2
ASUS	EEE-PC, N..., Rog, Infinity, Prime, Zenbook, Taichi, Touch, Transformer, R509C. (May need disable 'Fast boot' in BIOS)	Esc (must boot manually)	F9 or F2
ASUS	Model numbers starting with K or X and R503C	F8 (must boot manually)	Del or F2
Compaq	Older models or newer models (see also HP)	ESC or F9	F10
Dell	Most , including Alienware	F12	F2
Dell (tablets)	Venue 11 tablet PCs (note venue 7 and 8 tablets use micro USB and need an adapter)	Hold 'Volume down' then power on.	-
eMachines		F12	Tab, Del
Fujitsu		F12	F2
HP	Most newer models	ESC > F9	ESC > F10
Lenovo	All (<i>note: Ideapad 100s not compatible</i>)	F12 or Fn + F12	F1, F2
Microsoft	<i>Surface (*some not compatible with e-Exam System)</i>	Hold 'Volume down' and power on.	Hold Vol up & power
MSI		F11	Del
NEC		F5	F2
Packard Bell		F8	F1, Del
Samsung	Ativ Book 2, 8, 9	F10	F2
Samsung	NC10, Series 5 Ultra, Series 7 Chronos, Series 9 Ultrabook, NP. (May need disable 'Fast BIOS mode')	Esc	F2
Samsung	Others ... (May need disable 'Fast boot' in BIOS)	F12 (or hold down F9)	
Sharp		F2	F2
Sony	VAIO, PCG, VGN, e series	Esc or F11 or Esc, F10 or F12	F1 or F2 or F3 or ASSIST (while off)
Toshiba	All	F12	F1, Esc or F2

Diagrams

1. In Libre Office Writer: upper right toolbar and select  (or use the top menu bar View > Toolbars > Drawing).
2. The Drawing toolbar will appear at the bottom of the window.



3. To draw use tools: Pencil 'Free-form Line' for free hand lines, 'line' tool for straight lines, shape tools to draw shapes, and 'text box' to type labels.
4. To edit an object, select it with  from the drawing tool bar. Then...
5. Use the 'Properties' tool bar at the top of the window to move, rotate, resize etc.





Good luck :-)