# FSE Guidance on Student Study Hours

## How long should students study for each week?

Each University of Manchester credit should be equivalent to 10 hours of study (e.g. 100 hours for a 10 credit unit), this includes all aspects of studying: revision, attending lectures, independent study, etc. [[UoM Credit Equivalence](https://www.manchester.ac.uk/study/international/study-abroad-programmes/study-abroad/course-units/credit-equivalence/), [ECTS](http://ec.europa.eu/education/ects/users-guide/docs/ects-users-guide_en.pdf)]. Our UG students generally take 60 credits per 15 week semester (12 weeks term-time plus 3 weeks revision); this equals 40 hours of study per week.

Some of this time will be “contact hours” where students are in front of staff[[1]](#footnote-1). The rest will be “independent learning” which is any study time where staff are not present, confusingly including times where students work together. The way a student spends their independent learning time is just as important as the way they spend their contact hours (see “Why should we be doing this?” below) and as such we should provide guidance and support – especially in the first few semesters.

For this reason we are recommending that all student study time be guided. This has two parts, firstly working out the study hours for each “type” of study (lectures, solving problems sheets, etc.). When doing this we should ensure that similar units have a similar breakdown of study hours. The second part is to provide the students with guidance for each type of study – this will obviously differ for each unit. The next two sections deal with each part in turn (study hours and guidance).

While you should be planning week by week guidance similar to the examples given below we are collecting aggregated data that can check for some of the more obvious warning flags (e.g. have you left enough time for revision, do students get to practice the material from the lectures during the semester, etc.).

# Study Hours

## How should the 100 hours for a 10 credit unit (or 150h for 15 credits) be broken down?

Start with the ILOs. For each ILO a student is likely to need:

1. **Explanation** of the background concepts and ideally **instruction** on how to do the related task (e.g. a demonstration, or fully solved examples, etc.). This is commonly done through lectures but it might include guided reading of a textbook, pre-recorded videos, or something else.
2. **Review of new material**. Students should spend some time going back over the new material themselves to make sure they understand it. Ideally they should repeat this on an increasing interval [see “Spaced Repetition” – [Wikipeda](https://en.wikipedia.org/wiki/Spaced_repetition), [Gwern](https://www.gwern.net/Spaced-repetition)]. And students should briefly skim their notes beforehand to prepare them for learning the material [[Teach Students How to Learn - McGuire](https://sty.presswarehouse.com/books/BookDetail.aspx?productID=441430)]. I would expect this to take between 20mins and 1h per hour of lecture (or equivalent if not using lectures for the initial explanations and instruction).
3. Once students have the basic concept, they need **guided practice, ideally with feedback**. For ILOs like “describe” or “explain” they need to be talking to each other or writing down explanations, for “solve”, “calculate” ILOs they are likely to be working through a problem/question sheet. You should make sure you can see the students’ answers to these attempts – and use that to tailor your teaching (by giving group/individual feedback) but you don’t have to grade their formative work[[2]](#footnote-2). Ensure that there is enough time here for students to practice – they should be spending around 2 hours or more of practice per hour of explanation – some of this is likely to be contact hours and some will be independent; in either case it should be full explained and have suitable guidance (see: “[scaffolding](https://www.edglossary.org/scaffolding/)”).
4. **Assessment and assessment preparation**. For exam based programmes this will involve revision, again tell the students how you would recommend revising (e.g. solve 1 past paper with notes [8h], revise question sheets [8h], solve 2 past papers under exam conditions [4h]). For lab work this is likely to involve some preparatory work, some work in the lab and some write-up time afterwards.

## What might a 10 credit unit with an 80% exam and 20% coursework look like?

Let’s assume that the ILOs are around explaining and calculating. Let’s say you choose 10 two hours lectures with a couple of 2h revision lectures where you give feedback and revisit material but do not present anything new, this is 24h of total lecture time. For the lectures with new material let’s give the students 10mins beforehand to skim through the notes and slides and 20 mins afterwards to add to their own notes and look a couple of things up, this is another 10 hours.

For the “solve” ILOs they can have 4 question sheets each taking about 8h. For the “describe” ILOs they can have a list of 1 or 2 discussion questions for each 2h lecture (e.g. “what if” scenarios). Let’s recommend students spend 30mins discussing (or at least thinking about the answer) per lecture of new material. This gives a total of 37h of guided practice. If we get students to hand in their answers to the questions sheets we can give effective group feedback.

For the assessment let’s say the coursework is two 3h labs, and they submit their work at the end.

Then there is a 2h exam. Given that the teaching term is 12 weeks that leaves 3 weeks for revision which works out to be 20 hours per 10 credit unit. Obviously if the exam makes up a lower percentage of the grade then you would expect it to cover less of the taught materials (e.g. only covering the first half of the lectures), and thus the revision time would decrease accordingly. But for this example 20h will be about right, with the guidance to solve 1 past paper with notes [8h], revise the question sheets [8h], and solve 2 past papers under exam conditions [4h].

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| **Type** | **Comments** | **Hours** |
| Lectures (new material) | Ten x 2h lectures | 20 |
| Lectures (revision) | Two x 2h lectures | 4 |
| Lab / Practical | Two x 3h software lab (coursework) | 6 |
| Pre/post lecture work | Skim slides before, write up notes after 30min per lecture | 10 |
| Question sheets | Four questions sheets x 8h | 32 |
| Discussion questions | 15mins discussion per 1h lecture (1 scenario per lecture) | 5 |
| Revision + Exam | Solve past papers and revise question sheets + 2h exam | 22 |
| **Total** | | **99** |

## What do I do with the spreadsheet?

There is a spreadsheet associated with this guidance that allows you to enter times for common types of student work. Note that it only works with units that are 10 credits and exam based. It uses these times to check the basic shape of your unit, it’s really only a rough guide but if anything in it is flagged as a warning you must be able to justify why it is outside the norm. The checks are:

1. **About 100 study hours in total (+/- 5h)**: This is a university rule for a 10 credit unit.
2. **Revision ~= Hours of new material** (e.g. lectures): For units that have exams students should roughly spend about the same time revising as they do first taking in the new material. This new material will generally be presented in lectures but there may be other formats.
3. **At least 1h practicing for each hour of new material**: Students need to put their learning into practice and it should be where the bulk of a student’s time is spent. Spending 2h practicing per hour of new material should not be uncommon.
4. **30 mins to 2h pre/post work per hour of lecture**: Student will learn better if some time is spent consolidating their learning before independent practice. For flipped classes or classes where students have to work back through proofs this will be greater, for classes that generally introduce high level concepts it might be smaller.
5. **Contact hours between 20 and 40 hours**. Outside this range in either direction often leads to complaints, either about overburdening students or them not getting value for money. Some courses e.g. those with significant fieldwork might have more than this.
6. **Less than 2h writeup per lab hour**.

## What sort of guidance should we give to students?

Once you have broken down the study hours you should tell the students how you expect them to get the most out of each block of study time. The level of guidance is expected to vary between units and years. For first year students, the guidance around the explanation and practice of a particular part of an ILO for one week might be something like:

This week read pages 40-60 of the course text (~2h) and meet in your pre-arranged discussion groups to discuss the attached prompts (~1h).

This might be suitable a unit with a learning outcome of “discuss…”. A final year unit with a similar learning outcome might have a slightly less structured activity:

Find a few research papers on the topics discussed each week and explain the core concept to other students. (3h/week)

For this minimal level of guidance to be effective students need to have previously been taught how to find and evaluate literature, they need to have formed the habit of using discussion groups, and they need to know enough subject knowledge to be able to understand the papers – these skills should not be assumed, many students will not have them unless we explicitly teach it.

In either case the guidance is a lot more explicit than “independent learning: 46 hours”, or something similar that is usually hidden somewhere in the unit spec.

# Why should we be doing this?

## We need to change from traditional lecturing that just presents information

* “The old fashioned pedagogy in which the curriculum is literally interpreted as a list of topics to be delivered in lectures has been shown to be ineffective by a large body of educational research” [[Kyndt 2013](https://www.tandfonline.com/doi/full/10.1080/07294360.2013.863839?src=recsys)]
* “Average examination scores improved by about 6% in active learning sections, and that students in classes with traditional lecturing were 1.5 times more likely to fail than were students in classes with active learning” [[Freeman 2014](http://www.pnas.org/content/111/23/8410) (meta-analysis of 225 studies)]

## Yet, we should not overburden our students

* "Excessive workload causes students to learn poorly by resorting to surface and rote learning rather than deep learning, it causes higher incidences of plagiarism and cheating" [[Devlin 2007](https://www.tandfonline.com/doi/abs/10.1080/07294360701310805)]
* "Excessive workload has been shown to lead to a surface learning approach, characterized as passive, unmotivated and non-reflective learning where memorization and reproduction of unrelated facts is evident in order to complete assessment tasks" [[Scully 2008](https://www.tandfonline.com/doi/full/10.1080/09639284.2014.947094?src=recsys)]

## We should structure our courses around feedback, reflection, and guided practice

Feedback (see point 3 below) and metacognition[[3]](#footnote-3) (point 5) are *the most effective* interventions on meta-analysis of student achievement – see [Hattie 256 Effect sizes](https://visible-learning.org/hattie-ranking-influences-effect-sizes-learning-achievement/) and [EFF Toolkit](https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit) (sort by impact). Furthermore, [Clark 2012](https://www.aft.org/sites/default/files/periodicals/Clark.pdf) and [Freeman 2014](http://www.pnas.org/content/111/23/8410) make an excellent case for the value of explicit and direct instruction (point 1 and 4) followed by practice (point 2).

1. Students learn best by thinking deeply about the material, we need to guide them towards this through guiding practice tasks and explicit instruction. [[Clark 2012](https://www.aft.org/sites/default/files/periodicals/Clark.pdf)]
2. They need to practice "doing" the verb in each ILO (e.g. describing, solving, etc.), and we should structure their independent learning around these. [[Freeman 2014](http://www.pnas.org/content/111/23/8410), [Chickering & Gamson’s Principles #3 & #5](http://www.lonestar.edu/multimedia/sevenprinciples.pdf)]
3. We, as lecturers, need to know what mistakes students are making on the practice (describing/solving/etc.) and modify our teaching accordingly (i.e. give feedback). [[Hattie 2007](http://journals.sagepub.com/doi/pdf/10.3102/003465430298487)]
4. Before they practice they will benefit from explicit direct instruction on how best to do these tasks (i.e. tell them what they need to know to be able to do the task). [[Clark 2012](https://www.aft.org/sites/default/files/periodicals/Clark.pdf)]
5. In addition to the subject material we need to teach students how to study independently e.g. how to find research papers, how to evaluate them, how to approach unknown problems, where to look when stuck on a concept, etc. [[Using Reflection and Metacognition to Improve Student Learning](https://sty.presswarehouse.com/books/BookDetail.aspx?productID=298776)]

1. This include being virtually front of in the case of eLearning. “Staff” includes TAs and lab technicians as well as lecturers. See [[QAA Explaining Contact Hours](http://www.qaa.ac.uk/docs/qaa/quality-code/contact-hours-guidance.pdf?sfvrsn=cc45f981_8)] for a more thorough definition. [↑](#footnote-ref-1)
2. Giving a mark to a piece of work reduces the attention the student pays to the feedback [[Lipnevich 2008](https://www.ets.org/Media/Research/pdf/RR-08-30.pdf)]. And hence counterintuitively make it less effective. [↑](#footnote-ref-2)
3. Metacognition and reflection are overlapping concepts and often used interchangeably [[Rogers 2001](https://link.springer.com/content/pdf/10.1023/A:1010986404527.pdf)] [↑](#footnote-ref-3)