# FSE approved practice for formative assessment replacing 2020 summer examinations

* Semester 2 **formative assessments** replacing all summer on-campus exams may be one of the following **styles** at the discretion of the Unit Coordinator:
  + The **existing examination paper** that was to be delivered in the Semester 2 examination period.
  + A summer **resit paper** from a previous academic year.
  + An **alternative examination paper** of similar format and duration that covers similar ILOs.
  + **Online examinations** are allowed only where this is standard practice already; no exam marks should be returned.
* An **alternative examination** paper should adhere to the following guidelines:
  + Where possible questions should be used that students have not seen.
  + Where possible questions from previous exam papers available to students should be amended, for example by modifying quantitative values.
  + The paper should be constructed using questions from multiple sources, i.e. different past examination papers.
* Unit coordinators should consult with the relevant Programme Director and Discipline Head of Education and agree the **style** of the formative assessment for the unit by **Wednesday 29th April**.
* The formative examination paper must be released to students on the same day and at the same time as set out in the original examination period timetable, so that the release to students is staggered. In exceptional cases a revised timeline can be agreed with the TCLT.
* Students must submit their solutions within 7 days of the paper’s release; they should be advised that we expect them to spend no more than 3 times the normal exam duration on each paper.
* Students must return their solution as a single PDF file. Scans of hand-written answers such as those created using Adobe Scan are acceptable, as long as students check the final results are readable. Solutions returned in other formats may be marked at the discretion of the Unit Coordinator.
* Marking should utilise a **‘tick and cross’ approach**. To avoid confusion with summative assessment, numerical marks must not be awarded. Unit coordinators may choose to add comments when marking.
* Unit Coordinators must ensure worked **examination solutions** and **cohort level feedback** are released on Blackboard on or before **Friday the 3rd of July**.
* **Cohort level feedback** should be detailed and cover common errors and mistakes to support students learning. Unit coordinators should highlight which of the taught material underpins the question e.g. the materials from lecture 2 underpin Question 4. Please see the example of cohort level feedback at the end of this document.
* Disciplines will review student engagement with formative assessments and propose further learning activities for students to engage with over the summer to support their development. It should not be a requirement for students to engage with such activities.
* Submissions should be via Blackboard or Turnitin at the discretion of the Unit Coordinator, see guidance below.

# Guidance on submission of assessments

This is an initial version of a set of detailed materials which will be hosted by the e-learning team (expected to be completed by Monday)

Guidance for students how to use adobe scan <http://www.elearning.fse.manchester.ac.uk/blog/2020/03/18/online-teaching-assignments/>.

1. **Submission as a Blackboard assignment**  
   This route is best for assignments to be downloaded and marked off-line.
   * Feedback comments can be added to the student submission
   * This can be provided off-line by downloading the gradebook and uploading with feedback.
   * Audio and/or Video feedback is available with Bb Submissions
   * Multiple files can be submitted
   * Adding a simple rubric is a alternative way to provide ticks (correct/wrong), with some personalised feedback at the end; this needs to be done online
2. **Submission as a Turnitin assignment**

This gives access to online marking tools.

* + Feedback Comments and annotations can be added to the student submission.
  + Particularly easy (off-line) using an iPad.
  + A rubric can be used to give feedback on performance.
  + Audio Feedback is available with Turnitin Submissions (3min max)
  + Single file submission

1. **Online Exams**
   * We expect online exams still to run online, but would strongly suggest changing the grading to correct/wrong

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EXAMPLE Exam Feedback

COMP37111 Advanced Computer Graphics Toby Howard Steve Pettifer

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Comments

1. A straightforward starter question. Most of the class were able to recognise that this was about “following rules”, and so got full marks.  
A few people focussed on the visual effects of particular types of generative modelling, which was not what was being asked.

2. Well-answered, with sensible suggestions (there was no single correct  
answer) for both the modelling part and the rendering part. Some people, however, didn't answer the rendering part at all, which seems odd. For both parts I gave credit for anything which was plausible, quite a wide field because the question was quite an open one.

3. This question was about recursive division and displacement modelling and was quite well-answered. Most of the class recognised that the process was inherently recursive, but a few people did not.

4. This question asked about a workflow (a set of interrelated ordered logical steps to achieve a goal), and it about half the class did not describe a workflow at all; rather, they wrote down everything they knew about 3D scanning and also Delaunay Triangulation. I gave credit where due, but to get full marks a plausible workflow had to be described.

5. The first part was well-answered by most of the class, but the second part was often answered vaguely, without spelling out that video is essentially a set of still photos usually from slightly different viewpoints. This is the crucial point.

6. This final question required some thought, although the basic idea had been discussed in the lectures. Those who specifically said the CG camera should have the same parameters as those estimated for the real camera which recorded the scene, got full marks. Many people were not clear about this. About half the class, oddly, did not address the rendering aspect at all (as in Q2).

7. This was a fairly easy 'starter' question, and almost everyone gave a decent explanation and got full marks.

8. What I was expecting here was a description of the secondary reflection and refraction rays and the associated colour/energy change, which most people described well for full or nearly-full marks. What I hadn't realised was that the question could also be interpreted as asking about the geometry calculations, but I accept that's (just about!) a reasonable interpretation too and awarded marks without penalty to the few people that had gone down that path.

9. This was generally well answered, though with rather liberal and incorrect use of 'an infinite number of rays'. I was looking for a clear statement about two things 1) the way in which scattering of light in all directions would happen at the soft surface, resulting in very many (but not infinite) secondary rays, and 2) that the recursive nature of the algorithm would mean this was an exponential cost. Many people stated both of these things clearly; some people muddled one or both aspects and lost fractional marks.

10. Also answered well for the most part; I'd set the scene up so that radiosity was the obvious choice and was the most straightforward to justify. There were, however, a handful of people who made a compelling argument for a combination of Ray Tracing, local illumination and culling techniques, and while I'm still not totally convinced it's a sensible approach they were creative, well thought out so weren't penalised.

11. The most plausible answer to this question would be based on a pre-compute/baked-texture approach, which many people came up with (some even spotted you can partition the house based on a portal-style approach to reduce the combinatorial complexity of lots of lights, bravo if you did). A few people made valiant attempts at optimising/tweaking the full radisoity solver into realtime, with varying degrees of plausibility.

12. This wasn't answered as well as I was expecting, often with names mangled or descriptions unclear. The 'obvious' answer really is probably HBV, which a fair number of people chose and explained well. A lot of people went for BSP, which is also sensible (but this was often poorly explained). More people than I expected chose octree, which isn't really that sensible (but of these many justified it fairly well considering, so still got reasonable marks).

13. The obvious answer here was to use portal culling (though for full marks I needed a decent description of what this meant, including the recursive aspect). Some people invented solutions relating to separate BSP trees or Octrees per room, which was also acceptable if described meaningfully.

14. I marked these last two fairly strictly; they are after all intended to be the hardest bit. Plenty of people went for the solution I had in mind, which was to fudge the effect with a local illumination model; some proposed a limited form of local ray tracing which was also fine (though I didn't award full marks for simply saying 'combine ray tracing and radiosity' -- it needed to be considerably more considered than that). Excessive use of the word 'shinny'. For full marks I needed comments on both the effect of the torch, and the implication of the introduction of the shiny objects, some people commented on only one or the other.

15. This final question required further creativity, and I looked for precise rather than wooly answers for full marks. The trick here was to recognise that none of the spatial enumeration techniques from earlier work well for the flying bugs because the constant movement would impley constant re-calculation (even localised) of the structure, and that would almost certainly outweigh any any benefit. I was looking for some indication of this, and some plausible discussion about how it might be solved for full marks. There were plenty of decent attempts here which was good to see.

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