



Faculty: Engineering
Department: Earth Science and Engineering
Module name: EART40010
Geology in the Field
Programme name: Geology, Geophysics, Earth and Planetary Science
Level: 4
Approximate number of students: 95
Module ECTS: 7.5
Module type: core

Formative in the Field: How Pass/Fail Grading Reduced Assessment Workload

1. CHANGE OVERVIEW

- What specific changes were made? Describe the before and after
- What alternatives were considered and why were they not chosen?

EART40010 Geology in the Field is a residential fieldtrip module taken by the whole first year (Y1) cohort as a core component of their Geology, Geophysics or Earth & Planetary Science degree programmes. In the 2025-26 academic year, the module was substantially redesigned. The location of the main May/June fieldtrip was changed from southern Spain (where the trip had been running in various formats for c.30 years) to Cornwall, southwest England, and the main trip was shortened from nine field days to seven. To complete the module, an additional two-field-day residential trip to Dorset, southwest England, ran in March. The module had last been significantly changed in 2024, when the length of the trip was shortened from 13 field days to nine, allowing the same trip to be run twice, back-to-back, to better accommodate student numbers (figure 1). The 2025-26 redesign was driven by several factors including health and safety considerations (e.g., heat exposure, wildfire risk in Spain), the environmental impact of international travel, the opportunity to incorporate classic British geology locations in the new module, the modernisation and alignment of content with relevant multidisciplinary skillsets to better train the next generation of geoscientists, and the chance to spread fieldwork across two trips, thereby reducing the overall intensity of the module. The redesign was also an opportunity to reconsider the assessments for this module, which had previously carried a high workload burden for both students and staff. Previous assessments included pre-trip quizzes, plus several syn-trip exercises, which were all summatively assessed. The

previous scheduling meant that all work was completed and marked within the fieldtrip, which led to high marking burdens for staff and a tendency for students to overwork by staying up late. The high workload gave minimal time for students to digest and act upon whole cohort feedback and made it difficult for staff to supply individual feedback other than verbally (which was often not perceived as “real” feedback by students, as reflected in post-trip evaluation surveys).

As part of the redesign, the module was changed from 100% summatively-assessed coursework to a pass/fail module. The pass/fail aspects cover key competencies in geosciences fieldwork, including a pre-trip asynchronous online set of training materials, which are complementary to in-person workshops that run throughout the spring term, and cover: what fieldwork entails and why we do it; what equipment to have; what to pack; risk assessments for fieldwork; toileting and hygiene in the field; a fieldwork first aid course; navigation; clinometer use; rock descriptions in the field; scientific field notebook skills; reminder on bystander training and support networks. The syn-trip activities are now formative and focus on core geoscience competencies including a shortened mapping exercise (in Dorset), sedimentary logging, structural data interpretation, field notetaking and a new group synthesis project, where students work in small groups to address a geoscience question using field data, and



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present their findings via a group poster. Personalised formative feedback on exercises is given during the main trip (both written and verbal), and individual written feedback given on field notebooks after the trip. This assessment scheduling allows students to complete exercises with fewer time constraints and benefit from more tailored individual feedback during the trip, whilst significantly reducing the marking burden on staff. Spreading the fieldwork over two UK-based trips also makes the module more accessible, as it reduces the intensity of the main trip, and means that students who are ill, etc., have more flexibility to join/leave the trips part way through. It also creates a more relaxed atmosphere, which is better overall for wellbeing.

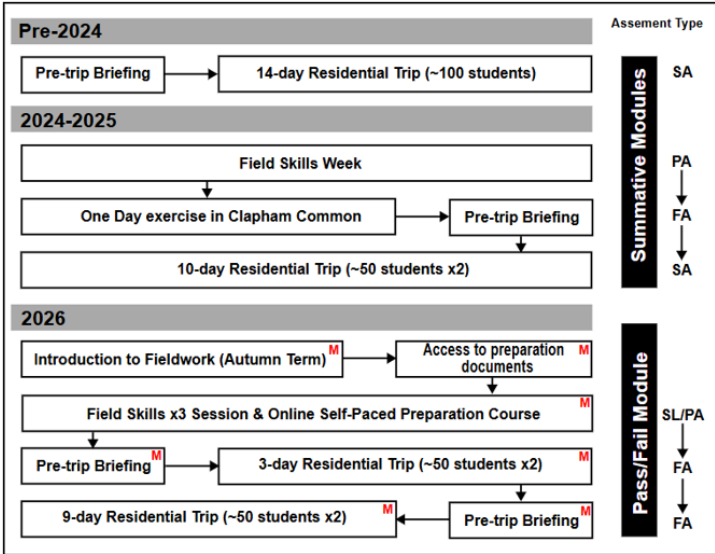


Figure 1. Recent changes in EART40010 module design. FA = formatively assessed to give feedback; M = milestone required by student to pass onto the next stage; PA = peer assessed (i.e., group work resulting in feedback but no grade); SL = self-paced learning (with pass on completion of all material); SA = summative assessed during the fieldwork through coursework. (Source: Spencer, 2026.)

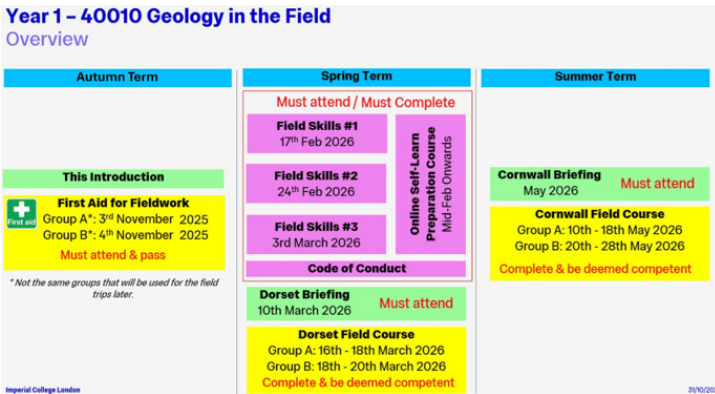


Figure 2. Summary of EART40010 structure for 2025/26.

Area	Before (pre-2025)	After (2025/2026)
Number of assessments	Pre-trip: risk assessment Syn-trip: logging exercise; structural exercise; field map; cross-section; field notebook	Pre-trip: completion of a fieldwork first aid qualification; attendance at introductory and field briefings, completion of online quizzes/tasks to show engagement with preparatory (interactive, self-paced) material; reading and signing of Code of Conduct. Syn-trip: completion of a field notebook (handed in for formative feedback); completion at outcrop of a logging exercise; completion of a structural exercise; completion of a group synthesis task and poster.
Assessment type	Summative assessments.	No summative assessment. Pass/fail; all components must be completed to a satisfactory standard to pass the module.

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Area	Before (pre-2025)	After (2025/2026)
Word count/task size	n/a	n/a
Feedback approach	Pre-trip: Immediate feedback on quizzes by automated marking; Syn-trip: individual written feedback on logging and structural exercise; feedback pro-forma on field notebook & written feedback in the notebook; summative grades on logging exercise, structural exercise (cross section and stereonet), field map, cross section and notebook; whole-cohort feedback on all exercises, verbally and via pre-printed posters displayed in the field centre.	Pre-trip: Immediate feedback on quizzes by automated marking; Syn-trip: individual written feedback on logging and structural exercises (and geomorphology exercise, for Group B); individual verbal feedback on field notebooks; peer feedback on field notebooks peer feedback on posters; Post-trip: individual written feedback on field notebooks, and group written feedback on the posters.
Timing/ scheduling	Pre-trip Field Skills Week and quizzes. All assessment and feedback completed during the trip.	Pre-trip (Nov-March) first aid, briefing, and field skill classes and asynchronous online self-paced material. Formative assessments completed during the trips (March & May). Feedback provided during and after the trip.
Marking process	Pre-trip: Immediate feedback on quizzes by automated marking. Syn-trip: Staff and GTAs mark and give formative feedback and a summative grade on field exercises, field map, cross section and field notebooks. Whole cohort written feedback given via posters.	Pre-trip: Immediate feedback on quizzes by automated marking. Syn-trip: Staff and GTAs give formative feedback on logging, structural and geomorphological mapping field exercises, field map, and field notebooks.
Student preparation for assessment	Pre-trip briefing Pre-trip quizzes Field skills week	Pre-trip briefings Pre-trip online self-paced course Field skills classes



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Area	Before (pre-2025)	After (2025/2026)
Student engagement with feedback	Variable. In post-trip evaluation surveys, students consistently commented on the lack of feedback available for this module (despite whole-cohort feedback and verbal feedback being available). Students received summative grades right at the end of the trip, which sometimes caused tension.	Anecdotally, good. Students were able to clarify written and verbal feedback comments with staff and GTAs during the trips and engaged well with the peer feedback exercise for field notebooks and posters.

- How did the changes impact the programme level learning outcomes and design?
- What other knock on consequences were there as a result of the changes (in terms of student preparation, staff preparation, changes to marking, formative assessment and feedback, developing feedback and assessment literacy etc)
- Was any consideration given to AI?
- (How) Was accessibility/inclusivity considered in the change?
- What kind of modification was the change – minor, major or required no modification to the paperwork?

The move to pass/fail assessment reduced the volume and time pressure of assessments, allowing staff to provide feedback during the trip, and give more structured and personalised field notebook feedback after the trip. The practical character of assessment exercises, which focus on data collection and analysis in the field, precludes substantive use of AI.

The changes to the trip were significant in terms of the location change, logistics, and core activities, so were classed as major modifications, which were approved by the ESE departmental Teaching Committee, then by Programmes Committee in August 2025. The module retained the core learning outcomes, whilst redesigning how these were delivered and assessed. The module continues to develop core geoscience field skills (mapping, logging, collection and interpretation of structural data, notetaking), whilst modernizing the content to align with topics of relevance to the next generation of geoscientists (e.g., critical minerals for the energy transition, environmental impact, geothermal energy, and geohazards) and giving an opportunity for groupwork, which is an authentic part of geoscience fieldwork.

3. RATIONALE FOR CHANGE

- What was the primary concern that the change was addressing? (for example: student workload, staff marking workload, assessment bunching, feedback quality, ILO duplication, inclusivity/accessibility, low educational value, etc)
- What evidence informed the need for change? (for example: NSS/PTES/module evaluations, student feedback, attainment data, progression concerns, staff experience)

The primary concerns being addressed were student workload, staff marking workloads, assessment intensity and the quality and timeliness of feedback. In addition, the relocation of the fieldtrip to the UK addressed issues with field safety, sustainability and environmental impact.

The main evidence informing the need for change was staff experience; numerous teaching staff had been



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involved with the delivery of the first-year fieldtrip for many years, and the core team redesigning the module have significant experience as field leaders. Staff have anecdotally observed that in recent years the incoming student cohort have seemed less prepared for fieldwork and/or had less opportunity to undertake pre-university fieldwork. There has also been a shift in uptake of our degree programmes away from the more field-based Geology programme to the less field-oriented Earth and Planetary Science programme.

The redesign was also informed by persistent student comments from the Spain field module about high workload and feeling underprepared:

“People pushed themselves hard, often working until midnight, so to get such a bad spread of results really is off-putting to me.” (2022, workload)

“While the fieldwork was interesting, it would be a significantly less stressful if we had some instruction on how to create certain things like cross sections or sed logs before the trip, especially for the people who have not done A level geology and so have not had any previous exposure to these things.” (2023, fieldtrip preparation).

“I felt we should be given more time before the Final submission of the module. Coming back from the last day of Mapping and spending the whole evening and night on the map and cross-sections was a bit exhaustive and almost all the students pulled an all-nighter.” (2024, workload)

4. THE PROCESS, IMPLEMENTATION AND IMPACT

- What challenges or tensions emerged during the process of redesign?
- What implementation challenges arose? What would you do differently next time?
- What worked smoothly?
- How) Were students consulted/included in changing the assessment and (How) Were students prepared ... eg were new practice papers/guidelines etc shared?
- What impact did the changes have on student workload, student experience and student performance?
- What impact did the changes have on staff workload and their experience?
- What evidence is available so far?

The redesign was a significant workload undertaking for staff, involving 1) two reconnaissance field trips (for logistical and activity-design purposes) in October 2025 (three staff members) and April 2026 (four staff members), plus significant input from a core team of four teaching staff, and 2) a desk-based literature review, activity design and development, writing the field guide and liaising with transport, accommodation, risk assessments, etc. The coastal nature of nearly all the outcrops and the changeable British weather meant needing to design in flexibility with the field locations. The trip ran twice – group A and group B, with different students and staff on each trip – to accommodate two groups of c. 40 students, and each trip needed a different itinerary due to changing tides. This posed significant logistical challenges. Pedagogically, the students across the two groups experienced similar formative activities, with small logistical adjustments as required (e.g., the data synthesis exercise occurred across one long field day for group A, but two half field days for group B, due to tides; group B completed a geomorphology mapping exercise and received written feedback on it, but group A were rained off the same location!). There was a large upfront workload impact for the staff creating the trip, but this will be significantly reduced in subsequent years as the trip matures.

One significant and ongoing increase in workload relates to the administration of the new module. Running each of the two fieldtrips (Dorset and Cornwall) twice to accommodate student numbers creates a much higher administrative burden than for the previous version of this module; instead of one long trip for the whole cohort (e.g. pre-2024 logistics), there are now four separate trips to book and track. Whilst the new iteration of the module reduces marking and assessment burden for staff and students respectively, the admin burden has increased for a small number of staff involved with fieldtrip logistics. However, running several shorter, UK-based trips also provides opportunity for staff with less field experience, and/or those with other commitments to contribute to field teaching, thereby increasing the pool of “field-ready” staff, drawing on a wider staff



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demographic and ultimately distributing the teaching load. The aim is to embed this approach in future years and use it to help sustain the field teaching programme.

Pre-trip, there was concern amongst some staff that moving to a pass/fail framework would lead to a lack of student engagement and could even lead to behavioural issues on the trips. This proved not to be an issue as, anecdotally, engagement was not noticeably worse than on the previous summatively-assessed trip. Another concern was what a “fail” would look like. The mandatory pass/fail components were completion of a fieldwork first aid course, with a pass in the online quiz; completion of online training; attendance at field briefings; signing of the fieldwork Code of Conduct; completion of in-trip activities to a satisfactory standard. For the inaugural year of the module, the “satisfactory standard” was decided by staff when the field exercises were handed-in and staff then provided formative feedback; these standards were based on those required to achieve a 40% pass in the previous summative field module. For the 2026-27 iteration of the module, indications of these “satisfactory standards” will be written into a rubric, made available to staff and students. In the 2025-26 run of this module, all students reached the competency standards (i.e., completed the mandatory sessions and exercises to a satisfactory level), meaning that all students passed the module. The reassessment option in the event of failing the module overall (i.e., due to significant lack of engagement or effort, or failure to reach satisfactory standards) would be a next-year in-person re-sit of the module. This is a high-stakes outcome, which would mean that the student would be unable to progress to the next academic year, thus encouraging engagement with the module. For those students unable to complete the fieldwork elements of the module due to mitigating circumstances (e.g., unforeseen illness), a desk-based alternative assessment was provided.

The redesigned fieldtrip module was significantly different to the previous version in terms of location and logistics, but very similar in terms of pedagogic outcomes. Progress on the redesign was communicated regularly to the impacted cohort (all Y1 undergraduates) via student departmental reps, termly DUGS briefings and at the student-staff committees. There was consultation with the Graduate Teaching Assistants from the previous years’ trip - mainly in the context of field safety related to recent Spain fieldtrips. There was also some consultation with departmental student reps and year reps via SSCC meetings in 2025, but this was limited because decisions had to be made quickly over summer 2025 in order to prepare for the 2026 Cornwall fieldtrip.

The new assessment structure appears to have worked well to reduce student workload pressure during the trips, and to ease the marking burden on staff. In previous years, some student feedback comments had reported intense workload (see section 3). Anecdotally, there were many positive comments from students both during and after the new fieldtrips (e.g., the Cornwall fieldtrip was “a pleasant experience with appropriate workload”, 2026 ESOLE survey).

In an evaluation survey of Group B students (39 respondents), the majority (34/39; 87%) were “extremely satisfied” or “somewhat satisfied” with the amount of work undertaken during the Cornwall fieldtrip, and all students who responded were satisfied or extremely satisfied with the feedback provided. Crucially, all students who responded to the survey also felt that their wellbeing was well supported during fieldwork (figure 3). This is an excellent result for a new module, and a significant positive improvement in student responses compared to previous versions of the module.