

the competence-based assessment of a fine, modular sub-division of the programme material, while appropriate for a vocational course, is not appropriate for a difficult academic discipline. A mathematics student has to engage bravely with substantial, interconnected, daunting constructions. To an academic mathematician, it is the student's having done so as a whole during their course, the *whole degree programme* learning outcome, which is important. If asked under what circumstances a student's failing one or a few modules should make him/her unworthy of a degree, they will typically reply – 'never'. The same is clearly not true of, say, a medical practitioner's ability to calculate drug doses correctly. Credit-framework models, however appropriate for some programmes, will nearly always be viewed as inappropriate for the assessment of mathematics.

We are deeply concerned about the tendency in some universities to impose on mathematics and other programmes the requirement that students pass essentially all modules, regardless of their overall average score. This changes the nature of the study of mathematics in our country; it encourages the removal of all challenging material from modules, and encourages the students to 'play safe' in their choice of subjects.

Recommendation 2 On occasion, a specific module should be available to more than one year of a mathematics degree.

Sequential subjects... require sequential layers of foundations, [continuing] right through a programme... The earlier years are not necessarily exclusively concerned with laying foundations; in many programmes it may be entirely proper for more advanced work... to start at an early stage, provided always that... prerequisite knowledge is in place^{3.3}

Because of the cumulative, sequential nature of mathematics, it can sometimes be difficult to assign a clear level – a natural year of study in the undergraduate programme – to a particular topic. In a sense a mathematical topic fits quite naturally into a modular system: it has its pre-requisites, and in turn many more modules may require it. But it may be inappropriate to fix its horizontal level in this web

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