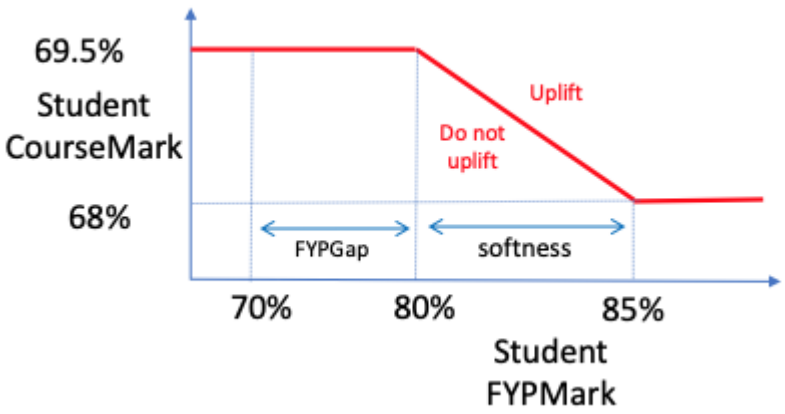
EEE Algorithm for considering the classification of borderline cases

The proposed algorithm considers the uplifting to the higher classification bracket students that fall within the eligible range for uplifting as determined by the College, and do not have MCs. The algorithm was considered and approved by the EEE DTC.

The rationale behind the algorithm is that a student is uplifted to the next classification bracket either when their performance in the exam average of the final year or his performance in the FYP is above certain distance from the boundary (performance excellence). The required performance excellence for uplifting considers the gap of the Programme overall mark to the borderline. A piece-wise linear function has been introduced to calculate the required excellence gap for uplifting given the distance of the overall degree from the borderline. An example for the 1st class borderline is provided bellow for a specific set of parameters. In this example, students need to achieve at least an 80% in the FYP for uplifting in case they have programme average at 69.49%, and 85% and above if their programme average is 68%.



The value of the parameters of the algorithm are:

Border for consideration	Parameter	Value
1st/2.1	FYPGap	10
	ExamGap	7
	Softness	5
2.1/2.2	FYPGap	5
	ExamGap	5
	Softness	5

Where:

- FYPGap - how much higher must FYPMark be than BoundaryOrig before we start uplifting students
- ExamGap - how much higher must ExamMark be than BoundaryOrig before we start uplifting students
- Softness - FYPMark or ExamMark range over which we change from uplifting no students to uplifting all students
- BoundaryOrig refers to the classification boundary (70%, 60%).

The algorithm is described below.

Algorithm

Input

- FYPMark - student FYP mark
- ExamMark - student average final year exam mark
- CourseMark - student overall programme mark
- Boundary - College mandated boundary (e.g. 69.5%, 59.5%, etc)
- BoundaryOrig – original boundary, 70%, 60% etc

Note

- If CourseMark above Boundary: student gets the upper classification
- If CourseMark below Boundary - 1.5%: student gets lower classification.
- College allows us to consider the range in between.

e.g. for 1st/2.1 boundary we consider range 69.5% - 68%

Algorithm (per student)

Let ExamUplift = 1.5% * (ExamMark - ExamGap - BoundaryOrig) / Softness

Let FYPUplift = 1.5%* (FYPMark - FYPGap - BoundaryOrig) / Softness]

Let Uplift = min(1.5%, max(FYPUplift, ExamUplift, 0)) # NB: Uplift is in range 0 – 1.5%

Let CorrectedMark = CourseMark + Uplift

If CorrectedMark > Boundary then uplift the student

Document title:		**EEE Algorithm for considering the classification of borderline cases**	
Version:	0.2	**Date:**	Dec 2023
Approved:		DTC – Dec 2023	
Effective from:		June 2023	
Originator:		DUGS	
Notes and latest changes:		v0.1 - Formulates application of uplift algorithm to UG exam results. v0.2 – Clarifies the text to be more easy accessible.	