

# Calculation of Final Letter Grades: Cutoffs vs. Numerical

Consider a course evaluation which consists of an Assignment (40% weight) and an Exam (60%).

In **Example1**, a student scores in terms of **raw marks** 98/120 (assignment) and 169/210 (exam). In terms of raw marks, the student expects a final letter grade of an **A**. However, the raw mark is merely used to rank students in the class, and it is the **cutoffs** that determine the letter grade; thus, via cutoffs the student scores a B+ for the assignment (rather than an A) and a B+ for the exam (rather than an A). The final Letter Grade for this student is thus a **B+**.

	A	B	C	D	E	F	G	H
1	<b>Cutoff vs. Numeric Grade Letter Grade calculation Examples</b>							
2	In the Cutoff method, only the unit letter grade is significant							
3								
4	<b>Example1</b>							
5	<b>Unit</b>	<b>Weight</b>	<b>Max Raw Mark</b>	<b>Actual</b>				
6	Assign	40%	120	98				
7	Exam	60%	210	169				
8			<b>Final</b>	<b>80.95</b>	<b>Numerical Grade</b>		A	
9					<b>Grade by Cutoffs</b>		B+	< 83
10								
11	<b>Example1</b>							
12	<b>Unit</b>	<b>Weight</b>	<b>Max Raw Mark</b>	<b>Actual</b>				
13	Assign	40%	120	55				
14	Exam	60%	210	90				
15			<b>Final</b>	<b>44.05</b>	<b>Numerical Grade</b>		E	
16					<b>Grade by Cutoffs</b>		D	>44
17								
18	<b>Grade Point Values</b>		<b>Cutoff Assign</b>	<b>Cutoff Exam</b>	<b>Final</b>			
19	A+	9	110	205	95.24			
20	A	8	99	175	83.00			
21	B+	7	91	160	76.05			
22	B	6	85	151	71.48			
23	C+	5	76	130	62.48			
24	C	4	69	120	57.29			
25	D+	3	61	110	51.76			
26	D	2	55	90	44.05			
27	E	1	40	70	33.33			
28	F	0	0	0	0.00			

Note that the Final cutoffs are calculated from the individual cutoffs in the same way. For example, the final cutoff for a Letter Grade of an A+ is  $95.24 = ((C19/120) * 0.4 + (D19/210) * 0.6) * 100$ .

The final cutoff for a Letter Grade of an A is  $83 = ((C20/120) * 0.4 + (D20/210) * 0.6) * 100$ .

In **Example2**, the student expects a final Letter Grade of an **E** (fail) but in fact passes with a **D**.