ABET OUTCOMES

مخرجات ابت الخاصة بالحقيبة التدريسية للمواد النظرية

إعداد

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OUTCOME “ E “AN ABILITY TO IDENTIFY, FORMULATE AND SOLVE ENGINEERING PROBLEMS”

- **Performance Indicators:**
- 1. Can extract an engineering problem from multifaceted problem.
- لديه القدرة على استخراج مشكلة هندسية من مشكلة متعددة الجوانب
- 2. Can take an engineering problem and set up an approach to solve it.
- يمتلك القدرة على إيجاد حل مناسب او مقارب لمشكلة هندسية معينة
- 3. Can solve an engineering problem appropriate for the BS level.
- يمكنه حل مشكلة هندسية من ضمن مستوى الدراسة الأولية البكالوريوس
- Assessment tools (Simulation and Student work)

SCORING RUBRIC "A SCORING GUIDE USED TO EVALUATE THE QUALITY OF STUDENTS' CONSTRUCTED RESPONSES"

	4- Exceeds	3- Meets	2-Progressing	1-Below
1. Extracts engineering problem from a multifaceted problem	Identifies engineering problems as distinguished from other problems also identified and engineering resources necessary to address it	Identifies engineering problems and engineering disciplines needed to address it, but does not identify other facets of the larger problem	Has trouble identifying an engineering problem from a larger problem and is unable to identify engineering disciplines needed to address it.	Does not identify an engineering problem from a multifaceted problem
2. Can set up solution approach	Sets up an innovative or unique approach to solve the problem that demonstrates real mastery of the material	Sets up a standard approach to solve the problem	Tries many approaches before being able to solve the problem	Is unable to determine an approach to solve the problem
3. Can solve engineering problems	Solves >90 % of engineering problems from student work used for assessment. Scores >85% on the relevant sections of the FE exam	Solves >75% of engineering problems from student work used for assessment. Scores >75% on the relevant sections of the FE exam	Solves <75% of engineering problems from student work used for assessment. Scores <65% on the relevant sections of the FE exam	Solves <50 % of engineering problems from student work used for assessment. Scores below 50% on the relevant sections of the FE exam

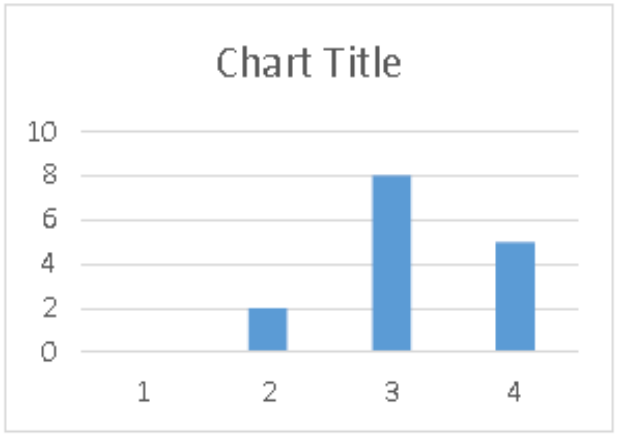
EXAMPLE

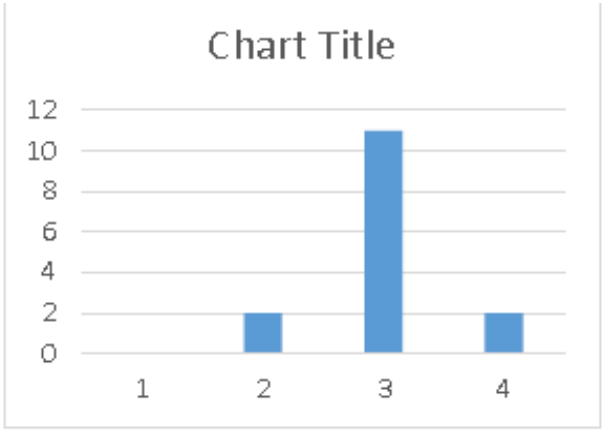
- Assume we have 14 students.
- Any class say Material Properties
- Now students are either made a simple simulations or they should take an exam and the lecturer must evaluate according to performance indicator by 1/3 of degree points for each one or by any ratio he/she use.
- So according to Rubric table let us assume the students rating indicators were as follow:

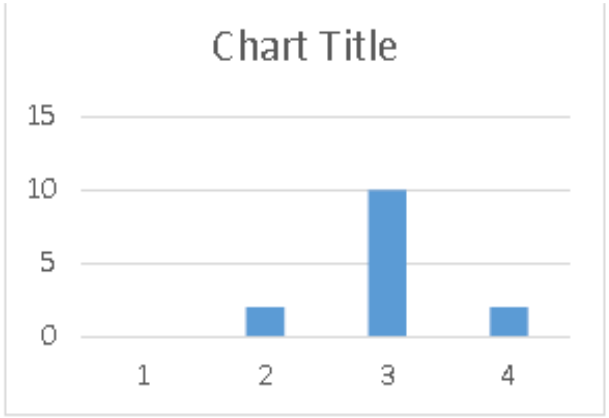
	4- Exceeds	3- Meets	2-Progressing	1-Below	
Extracts engineering problem from a multifaceted problem	II	IIIII I	IIIII	I	2*4+6*3+5*2+1*1=37, 37/14=2.642
Can set up solution approach	IIIII I	IIIII I	II		6*4+6*3+2*2=46 ,46/14=3.285
Can solve engineering problems	IIIII I	IIIII I	II		6*4+6*4+2*2=52 ,52/14=3.714

- Average = (2.642+3.285+3.1714) / 3 = 3.032
- So the final grad for outcomes E = 3.032/4

PERFORMANCE INDICATOR CHARTS RESULT







- **Students Works Rating:**
- Lecturer should also made a students works rating which is a number of 1~ 4 of their understanding for the performance indicator.
- Then calculating the Average (x of 4) and final grade (x/4)
- It's related to lecturer to do students works rating chart and it should loke like the performance indicator one.
- SD " Standard deviation is needed for both. Hint/ you could use the web to do it easily. Also it is good if less than 1

STUDENT AND FACULTY EVALUATIONS OF LEARNING OUTCOMES

Students Outcomes	Students Rating	SD	Instructor Rating	SD	Instructor Comments
E	Assume 3.112	0.85	3.032	0.343	Acceptable difference
Assessment of Changes/Improvements Made this year, 2016/2017			No improvement is made		
Changes/Improvements That Will Be Made Next Time the Course is Offered			We hope that next year will be improved by:		