Course Description وصــف مقــرر دراســي

متطلب متزامن Co-Req.	متطلب سابق Pre-Req	تمارين TU	عملي LB	نظري LT	الساعات CR	اســـــــم المقـــــــرر Course Title	رقم ورمز المقرر Course Code
351 همك ME 351	- -	-	2	-	1	معمل ميكانيكا المواد Mechanics of Materials Laboratory	352 همك ME 352

محتويات المقرر :

تطبيقات مقاييس الإنفعال: إختبار الشد, إختبار الإلتواء, إختبارات على الكابولى و قياس الضغط فى الخزانات الإسطوانية؛ إنحناء الكمرات؛ إنبعاج الأعمدة.

Course Contents:

Strain gauge applications: tension test, torsion test, cantilever beam, pressurized cylindrical vessel; Deflection of beams; Buckling of columns.

Course Objectives:

1.List and explain applicable experimental methods for characterizing material and component behavior.
2.Compare (and quantify differences) measured experimental results and calculated theoretical values.
3.Predict component behavior using experimental test results and engineering formulae.
4.Analyze experimental data, theoretical models and their scalability to components.
5.Analyze (deduce) the inherent variability of materials subjected to multiple modes of loading and apply the results to component behavior.
6.Evaluate the limits of structures by extending the experimental measurements using theoretical and numerical methods

Evaluation Methods:

1. Midterm exams
2. Term project
3. Assignments
4. Quizzes
5. Lab. Reports
6. Seminar
7. Final exam

Text Book and References:

1- Mechanics of Materials, R.C. Hibbeler, Prentice Hall.
2- Mechanics of Materials, E.P. Popov, Prentice Hall.
3- Experimental Stress Analysis, J.W. Dally and W.F. Riley, McGraw Hill.
4- Introduction to Solid Mechanics, I.H. Shames, Prentice Hall.

توقيع رئيس القسم: توقيع عميد الكلية: