

成績稽核

基本資訊

教科書(尊重智慧財產權，請用正版教科書，勿非法影印他人著作)

書名	作者	譯者	出版社	出版年
開課系所	機械與自動化工程學系博士班、碩士班、學士班		研究所博士班1年1班	
任課教師	林陽泰	專兼任別	客座	

參考教材及專業期刊導讀(尊重智慧財產權，請用正版教科書，勿非法影印他人著作)

書名	作者	譯者	出版社	出版年
無參考教材及專業期刊導讀				

課程簡介

上課進度		分配時數(%)				
週次	教學內容	講授	示範	習作	實驗	其他

1	Stress-Strain Relationship for an Isotropic Elastic Material, Basic Equation of Elasticity for Isotropic Bodies	80	10	10	0	0
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課程大綱

2	Vectors and Tensors del Operator, Transformation of Coordinates	80	10	10	0	0
1. Tensor Analysis						
2. Stress and Strain Analysis						
3. Tensor operations, Quotient Law, Equations of motion		80	10	10	0	0
3. Linear Elasticity						
4. Solution of Problems in Elasticity by potential and Complex Variables		80	10	10	0	0
5. Elastic and Plastic Behavior of Materials						
6. Variational Calculus, Energy Method						
7. Viscoelasticity						
8. Thermoelasticity						
9. Plasticity						

7	Strain Potential, Harmonic Functions, Galerkin Vector	80	10	10	0	0
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基本能力或先修課程

3	Biharmonic Function, Galerkin Vector and Neuber-Papkovich	80	10	10	0	0
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9	Function in Dynamics					
9	Biharmonic Function, Galerkin Vector and Neuber-Papkovich	80	10	10	0	0

10	Function in Dynamics					
10	Plane state Stress or Strain, Airy Stress Function for	80	10	10	0	0

11	Two-Dimensional Problem, Airy, Stress Function in Polar Coordinates, Axially Symmetric Problem	80	10	10	0	0
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系所核心能力	權重(%)	檢核能力指標(績效指標)	教學策略	評量方法及配分	核心能力學習成績	期末學習成績
12	Example : 1. Plates Bounded by two Concentric Circles and 2.Elliptic Hole in a Plate under Simple Tension (Method of Conformal Transformation)	80	10	10	0	0

13	Steady-State Response to Moving Load, Galilean transformation, Alternate Method of Solution	80	10	10	0	0
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14	Viscoelastic Models, Solution by using Laplace Transformation and Inversion, Kelvin `chain and general Maxwell model	80	10	10	0	0
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15	Hereditary Integrals, Correspondence Principle, Viscoelastic beams,	80	10	10	0	0
16	Vibrations-dynamic behavior for a Viscoelastic Bar under Oscillating stress, Complex Compliances, Dissipation, Relations between Compliances, Two-dimensional problems	80	10	10	0	0
17	Minimization of Functional, Ealers ' Equation, Plasticity Criteria	80	10	10	0	0
18	Final Examination	0	0	0	0	100
