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Nota di contenuto	Front Cover; Mechanics of Materials 1; Copyright Page; Contents; Introduction; Notation; Chapter 1. Simple Stress and Strain; 1.1 Load; 1.2 Direct or normal stress (σ); 1.3 Direct strain (ϵ); 1.4 Sign convention for direct stress and strain; 1.5 Elastic materials - Hooke's law; 1.6 Modulus of elasticity - Young's modulus; 1.7 Tensile test; 1.8 Ductile materials; 1.9 Brittle materials; 1.10 Poisson's ratio; 1.11 Application of Poisson's ratio to a two-dimensional stress system; 1.12 Shear stress; 1.13 Shear strain; 1.14 Modulus of rigidity; 1.15 Double shear 1.16 Allowable working stress - factor of safety 1.17 Load factor; 1.18 Temperature stresses; 1.19 Stress concentrations - stress concentration factor; 1.20 Toughness; 1.21 Creep and fatigue; Examples; Problems; Bibliography; Chapter 2. Compound Bars; Summary; 2.1 Compound bars subjected to external load; 2.2 Compound bars- "equivalent" or "combined" modulus; 2.3 Compound bars subjected to temperature change; 2.4 Compound bar (tube and rod); 2.5 Compound bars subjected to external load and temperature effects; 2.6 Compound thick cylinders subjected to temperature changes; Examples

Problems Chapter 3. Shearing Force and Bending Moment Diagrams; Summary; 3.1 Shearing force and bending moment; 3.2 S.F. and B.M. diagrams for beams carrying concentrated loads only; 3.3 S.F. and B.M. diagrams for uniformly distributed loads; 3.4 S.F. and B.M. diagrams for combined concentrated and uniformly distributed loads; 3.5 Points of contraflexure; 3.6 Relationship between S.F. Q, B.M. M, and intensity of loading w ; 3.7 S.F. and B.M. diagrams for an applied couple or moment; 3.8 S.F. and B.M. diagrams for inclined loads; 3.9 Graphical construction of S.F. and B.M. diagrams
 3.10 S.F. and B.M. diagrams for beams carrying distributed loads of increasing value
 3.11 S.F. at points of application of concentrated loads; Examples; Problems; Chapter 4. Bending; Summary; Introduction; 4.1 Simple bending theory; 4.2 Neutral axis; 4.3 Section modulus; 4.4 Second moment of area; 4.5 Bending of composite or flitched beams; 4.6 Reinforced concrete beams - simple tension reinforcement; 4.7 Skew loading; 4.8 Combined bending and direct stress-eccentric loading; 4.9 "Middle-quarter" and "middle-third" rules; 4.10 Shear stresses owing to bending; 4.11 Strain energy in bending
 4.12 Limitations of the simple bending theory Examples; Problems; Chapter 5. Slope and Deflection of Beams; Summary; Introduction; 5.1 Relationship between loading, S.F., B.M., slope and deflection; 5.2 Direct integration method; 5.3 Macaulay's method; 5.4 Macaulay's method for u.d.l.'s; 5.5 Macaulay's method for beams with u.d.l., applied over part of the beam; 5.6 Macaulay's method for couple applied at a point; 5.7 Mohr's "area-moment" method; 5.8 Principle of superposition; 5.9 Energy method; 5.10 Maxwell's theorem of reciprocal displacements
 5.11 Continuous beams - Clapeyron's "three-moment" equation

Sommario/riassunto

One of the most important subjects for any student of engineering to master is the behaviour of materials and structures under load. The way in which they react to applied forces, the deflections resulting and the stresses and strains set up in the bodies concerned are all vital considerations when designing a mechanical component such that it will not fail under predicted load during its service lifetime. All the essential elements of a treatment of these topics are contained within this course of study, starting with an introduction to the concepts of stress and strain, shear force a

2. Record Nr.	UNINA9910460193603321
Titolo	Being "In and Out": Providing Voice to Early Career Women in Academia // edited by Narelle Lemon, Susanne Garvis
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ISBN	9789462098305 9462098301
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (173 p.)
Collana	Humanities, Social Sciences and Law Series
Disciplina	378.0082
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Nota di contenuto	Preliminary Material / Narelle Lemon and Susanne Garvis -- Beginning the Conversation Looking In and Looking Out / Narelle Lemon and Susanne Garvis -- Just Keep Following the Heartlines on Your Hand / Georgina Barton -- Are You Old Enough to Be in Academia? You Don't Have Grey Hair / Susanne Garvis -- Teacher to Academic / Annette Hilton -- Sending Out a Tweet / Narelle Lemon -- Right Back Where We Started From / Tseen Khoo -- Finding Pockets of Agency / Kylie Budge -- Mum (Ph.D.) / Rebecca Miles -- Towards Joy / Mia O'Brien -- Lessons from Lobsters / Rochelle Fogelgarn -- Academic? ... I'm Just a Teacher / Sarah-Jane Lord -- Academic Seeking Sustainability / Betina Przybylak -- From Wrestling a Crocodile to Exploring New Billabongs / Kaye Harris -- The 20/20 Project / Christine Healey -- Final Thoughts / Narelle Lemon and Susanne Garvis.
Sommario/riassunto	This book is about a network of women who as a collective and individuals can share their stories to indeed help themselves as well as others. Our stories as-sist in the telling and retelling of important events. Reflecting on these events allow the 'processing', 'figuring out' and 'inquiring', leading to behavioural actions to change situations. The fact that we are women unites us as we have common elements with our roles both within academia, in our families, and in society. The women in this study share their narratives in an open dialogue. Their journey into and out of academia is constructed from "a metaphorical three-dimensional inquiry space" (Clandinin & Connelly, 2000, p. 50).

The space enables the authors to capture and communicate the emotional nature of lived experiences (Clandinin & Connelly, 2000). The self-studies explore the changes in social and contextual approaches that are attached to working and studying in higher education. The book provides a narrative of the “ups” and “downs” that female academics have individually and collectively encountered while moving “in” and “out” of academia. Making these stories known establishes a sense of collaboration and community. This action serves to perpetuate and further develop the established pedagogy and look to improve practice. A community practice seeks to locate the learning in the process of co-participation (building social capital) and not just within individuals (Hanks, 1991). It allows females to come together to share experience and discuss ways forward.
