UNIVERSITÀ DEGLI STUDI DELL'AQUILA
CORSI DI INGEGNERIA

A.A. 2023/2024
Mechanics of plates and shells (I4C)
- Giorgio Ivan -

(Aggiornato il 22-09-2023)

Contenuti del corso (abstract del programma):

1) Basic notes on mono-dimensional structural elements: straight, planar

beam; straight, planar beam on elastic soil (Winkler model); planar curved beam; ring beam.
2) Bi-dimensional planar elements: planar membrane of generic shape; plate of generic shape (Mindlin and Kirchoff models.
4) Basic notes on curved two-dimensional elements: cylindrical shell; axial-symmetric shell (spherical dome, Reissner and Geckeler models).

Programma esteso:

1) Basic notes on mono-dimensional structural elements: straight, planar beam; straight, planar beam on elastic soil (Winkler model); planar curved beam; ring beam.
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Modalità d'esame:

Oral exam.

Risultati d'apprendimento previsti:

The main objectives of the course are: i) the mathematical formalization of non-standard mono- and bi-dimensional structural elements; ii) to highlight the behavioral characteristics and the phenomenology of the single structural elements and of complex structures.

Testi di riferimento:

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1) O. Belluzzi, Scienza delle Costruzioni, Vol.3.

2) S.P. Timoshenko, Theory of Plates and Shells.