Engineers Australia Heritage & Conservation Engineering Education

The following course has been designed to fulfil the heritage theory requirements for registration as a Heritage and Conservation engineer under the National Engineering Register.

COURSE 2: Materials for Heritage Engineering

Learning Outcomes Statements

- Demonstrate an awareness of the material and performance characteristics of heritage materials and structures.
- Demonstrate awareness of the range of technical solutions applicable to heritage engineering problems.
- Demonstrate the ability to analyse problems and design practical solutions for the repair and conservation of heritage items and structures.
- Be able to articulate the intellectual nuances of practical solutions that enhance the social values of a site or structure, while also satisfying the physical requirements of a project.
- Demonstrate independent work applying this learning in an industry context.

Syllabus

- Understanding Heritage History & Technology
- Introduction to material and performance characteristics of heritage materials and structures including:
    - Masonry & Foundations
    - Timber
    - Metallurgy
    - A selection of the following depending on student specialisation and interest:
        - Lime mortar
        - Hot riveting
        - Mechanical Drives & Lubrication
        - Boilers & Pressure Vessels
        - Electrical Works & Systems
        - Adapting Fire Systems into Heritage Structures
        - Hazards & Hazardous Materials on Heritage Sites

Delivery Design

- Introductory online learning including readings, online Q&A session and optional assessment with feedback
- Two day in-person on-site intensive, delivered on a real-world heritage site
    - Day one – focus on theory of material and structural characteristics and performance.
    - Day two – focus on learning through practical experiences.
- Post intensive written assessment on a site local to the student, providing an opportunity to reflect on their learning in their local environment.
- The course will provide the student with 30 hours of professional development.

We suggest if you have no experience in assessing significance, that you do the Contexts course first.