

Sustainable Design as Foundation Year Project

Chandra Vemury, Teaching Fellow, Newcastle University

Outline

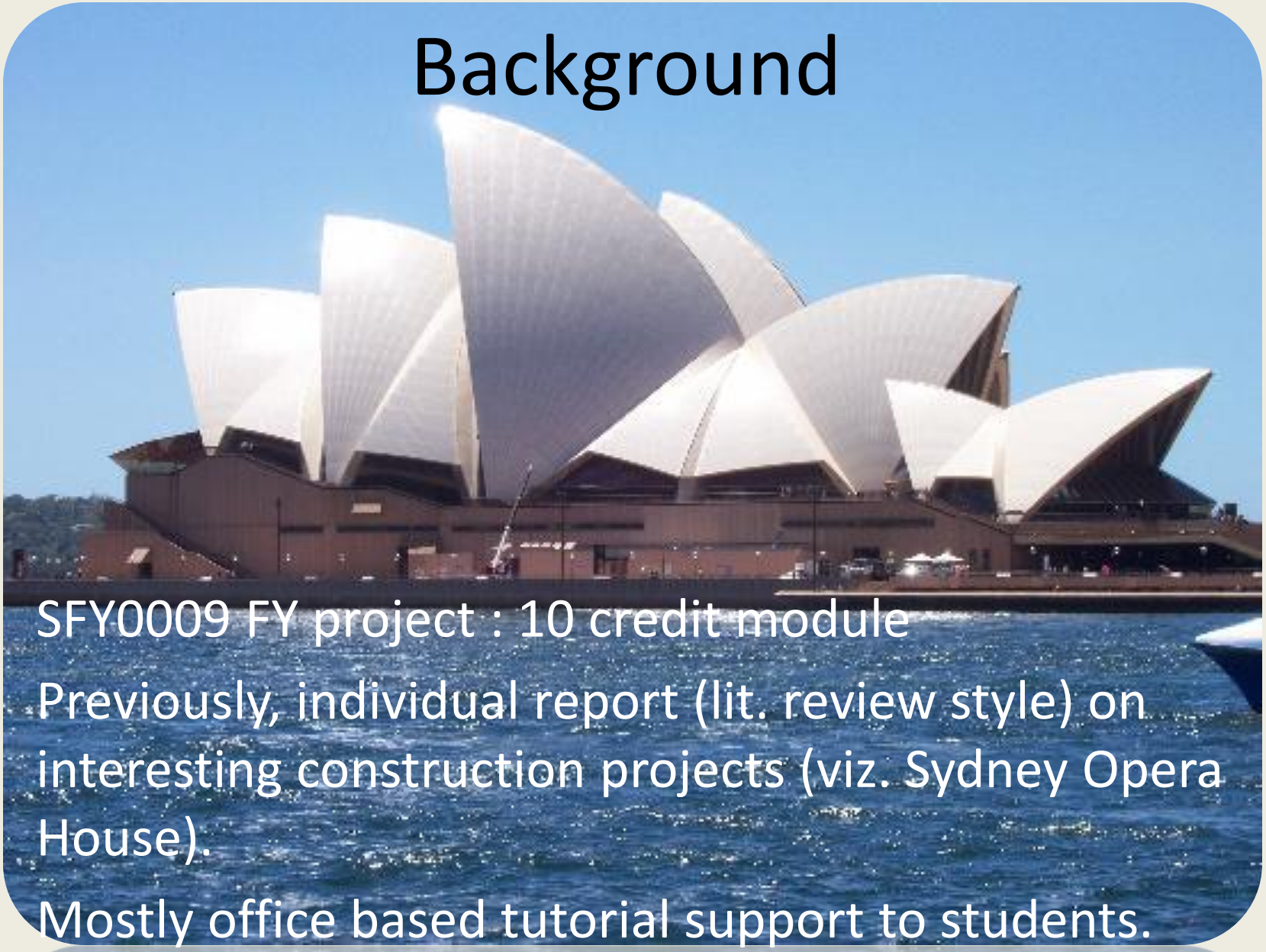
- A 10 credit FY project module has been redesigned to foster student learning through group/team work and widen the range of skills assessed by introducing project reports and group presentations as modes of assessment.

Group Projects

"Overall, the project received very positive student feedback and the team training was extremely well regarded…students felt that they had improved a range of skills…[including] **delivering presentations, time management, teamworking and problem solving**."

These were the words of Colin Smith (PBLE, 2003), University of Sheffield in relation to his project offered to the third year MEng programmes in civil and structural engineering.

Background



- SFY0009 FY project : 10 credit module
- Previously, individual report (lit. review style) on interesting construction projects (viz. Sydney Opera House).
- Mostly office based tutorial support to students.

What's new?

- Design of an *Aquatic and Wellness Centre* in Newcastle Upon Tyne. Client is the city council.
- Students work in groups (3 or 4) and carry out o*ptions analysis, concept design and project planning.*
- Sustainable materials and construction techniques are to be used.

Why raise the ‘S’ word?

152 million tonnes of carbon (MtC) were produced by the UK in 2004. Emissions from the domestic building stock were responsible for 41.7 MtC in 2004 – 27% of total UK carbon emissions.

Providing **space and water heating is responsible for 73% of domestic emissions.**

Review of Sustainability of Existing Buildings (2006)

How did we do it?

- Timetabled Lectures (6 in total)
- Guided site visit to the Sunderland Wellness and Aquatic Centre, thanks to Robert Dobson, Dep. Manager.
- Weekly group meetings to brief the module leader
- Project Reports (group and individual work)-70%
- Presentation (group) -30%

Output

- Hand sketches or AutoCAD drawings
- Use of Gantt Charts
- Energy/CO_2 and lifecycle analysis of construction materials
- Presentation skills
- Ability to present logical arguments

that’s because….



Student work..

- Foundation Project\Group D.pptx