Building Services
Semester: 2 (Spring)
Stage: 2
Number of Credits: 4 semester credits/6 quarter units

Prerequisites	Design Technology I- Building Construction I
Assessment Weighting	100% continuous assessment
Element	Design, Technology.
Supports stage learning outcomes	• Integrate conceptual, contextual, ethical and material considerations in the **design** and realisation of space and form. . • Demonstrate and apply knowledge of **structural, technological and constructional principles**, the properties and meanings of materials and their influence on design decisions. • To **organise, manage and operate** interior architectural projects within the regulatory frameworks and systems related to design, architecture and construction. • Research and critically appraise the built environment in terms of its **aesthetic, cultural, social, historical and political context**.

Module learning outcomes:

On completion of this subject students will be able to:

- Identify necessary building services
- Plan the services in interiors
- Source information/suitability of relevant products
- Work with engineers, suppliers and other professionals to determine efficient levels of environmental comfort and safety
- Recognise and understand the contribution each service makes to the overall comfort and safety of the building

Syllabus content:

Introduction to service requirements
Domestic, commercial and institutional situations

Surveying
Working as part of the design team to ascertain the optimum delivery of services.

Utilities.
Water, gas, light, the provision, requirements and legislation relating to utilities.

Safety Systems
Sprinkler and hose systems. Fire alarms and safety lighting.

Air Conditioning
Design, installation and efficacy.

Heating / Lighting.
Environmental requirements, efficient delivery and control.

Computer / Wireless (Blue tooth) Technology
Special requirements, future planning.

Green Energy
Solar energy, redistribution of energy, effective insulation.

Teaching / learning methodology:

The subject is taught primarily by means of lectures, demonstrations and workshops. Visits to relevant installations and guest lecturers will complement the student experience. The student will have internet/web access to the various national and international professional controlling bodies and the use of video to demonstrate the installation, operation and control of services. Assignments are an integral part of the teaching methodology. Students will be expected to maintain very regular contact with their assignment supervisor. The responsibility to arrange one–to-one tutorials rests with the student.

Method of assessment:

The module is assessed by continuous assessment. The student will present design solutions for real/actual situations to be determined. The assignments will evolve domestic, commercial and institutional environments.

Students will compile a portfolio of work for each situation (an assignment), which will include drawings with supporting written materials and formulae. Each assignment will be assessed separately.

Recommended reading			
Principles of HVAC	Howell, Sauer & Coad	Ashrae	2001

	883413-56-7		
HVAC Design Manual for Hospitals and Clinics	1-931862-26-5	Ashrae	2003
Heating Ventilation & Air-Conditioning		HVAC	2000
American Society of Heating, Refrigeration, and Air-Conditioning Engineers		ASHRAE	2001
Architectural Graphic Standards	0-471-53369-6	Wiley	2000