



Queensland University of Technology

Audiovisual Facility Design Standards

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Audiovisual Facility Design Standards

Section 1. Introduction

The purpose of this publication is to ensure that all audiovisual facilities are designed and constructed to the same standard as set out by QUT Learning Environments.

Where possible, these guidelines will be used as the standard to which the facilities will be designed. Where for some reason, these standards cannot be met, consultation during the design stage, prior to the commencement of any construction works, with Learning Environments staff, must be undertaken.

This publication details the physical requirements for the audiovisual equipment to be used in classrooms, meeting rooms and PC labs (AV4 classification) and lecture theatres (AV5, AV6 & AV7 classification). See appendix 1 for room classifications.

Section 2. Physical Requirements for classrooms, meeting rooms and PC labs

2.1 Equipment racks

Audiovisual equipment is typically mounted in standard 19" racks. Racks must provide convenient access to the front and rear of equipment.

Where racks must be installed in joinery (eg in a meeting room), rear access, in the form of a lockable door is to be provided, the lock shall be to the QUT standard AV key, provided by Learning Environments staff. Where rear access cannot be provided, the joinery must allow the rack to be easily slid out for servicing. There must be no plinth or separate cupboard floor, and there must be sufficient width and depth (clear of obstructions such as hinges) for the rack and bulky loop of cables.

All power and network outlets required for connection to the AV equipment must be provided inside the cupboard space, with an accessible cable path up to the ceiling from this space.

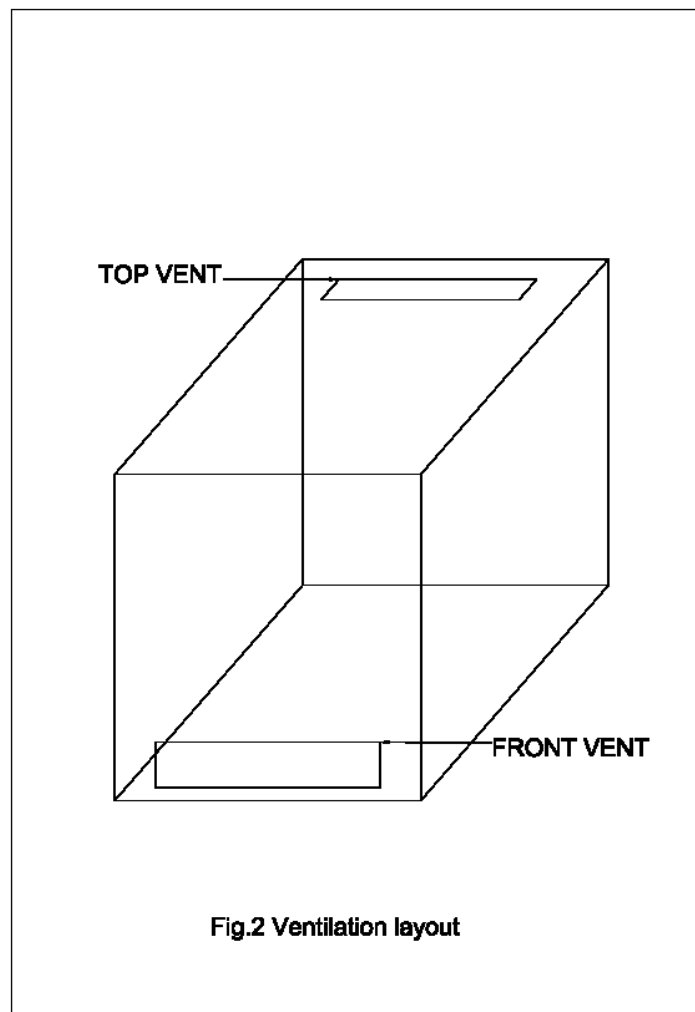
The minimum internal dimensions are to be: 800mm (H) x 750mm(W) x 800mm(D)

2.2 Ventilation

Regardless of location, there must be sufficient ventilation (air flow) to prevent unacceptable temperature rise.

Recommended ventilation is an air inlet grill in the bottom of the front door and an outlet grill in the cupboard top, mounted to the rear of the compartment. For design purposes, assume a heat load of 1000 watts (minimum) and a temperature rise of 10 degrees Celsius above ambient (maximum).

Refer to fig. 2 for ventilation requirements.



2.3 Location

2.3.1 Classroom or PC Lab

Where possible, the teaching station should be to the front of the room, against the side wall, furthest from the entry door, positioned 1200mm away from the front wall, to comply with AS1428 part 2 for access

Refer to fig. 3 for basic room layout.

See appendix 2 for further examples of suitable floorplans

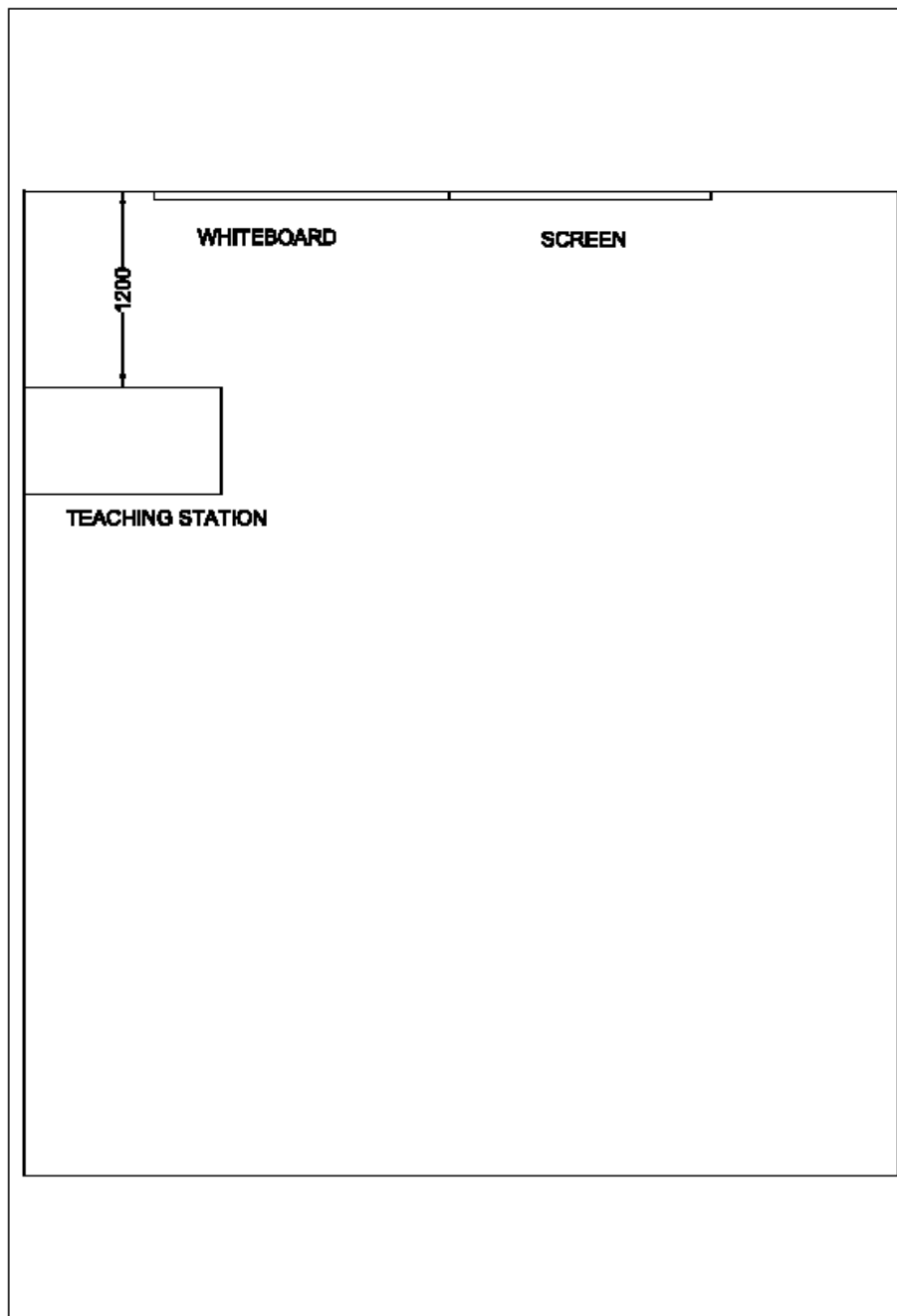


Fig.3 basic room layout.

The teaching station should contain the AV equipment rack as part of its structure. QUT has a standard teaching station design that should be used where possible.

All power and network outlets and signal cables required for connection to the AV equipment must be run out of the wall, with the outlets positioned 300mm AFFL (above finished floor level), with an accessible cable path up to the ceiling from this space.

Provision must also be made in the ceiling, at the location of the data projector, for power and network connections for the data projector, the final position of which will be determined in consultation with QUT Learning Environments staff during the design process.

The teaching station drawings are available by contacting QUT Integrated Help services, Learning Environments.

Refer to fig. 4 for details.



Fig. 4 Standard QUT Classroom teaching station

2.3.1.1 Projection Surfaces

Where possible, the front wall of the room shall be painted matt or low sheen white, to facilitate projection directly onto the wall surface.

Sufficient unobstructed space – an area of approximately 2400mm wide x 2000mm high shall be provided as close as possible to the centre line of the room. This surface needs to be physically flat and unobstructed, ie. no power or network outlets, light switches etc, in this area.

2.3.2 Meeting Room

Where possible the AV equipment should be mounted in a joinery unit at the front of the room, paying attention to 2.1 Equipment racks & 2.2 Ventilation.

The height of the joinery unit should be no more than 900mm AFFL, to allow sufficient height for the projected image.

Refer to fig. 5 for basic room layout and fig. 6 for cupboard layout example.

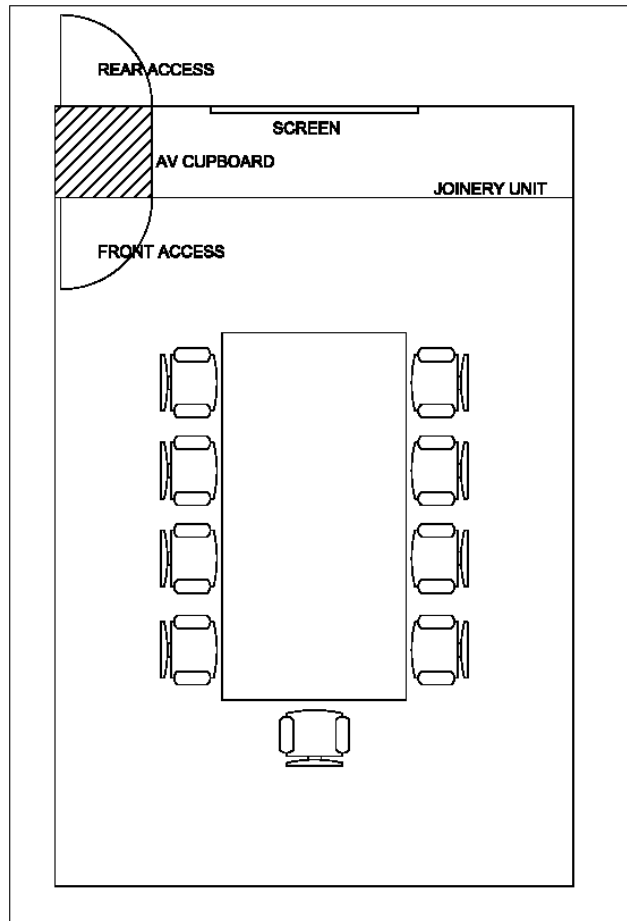


Fig. 5 basic meeting room layout



Fig. 6 Cupboard layout example

Provision must also be made in the ceiling, at the location of the data projector, for power and network connections for the data projector, the final position of which will be determined in consultation with QUT Learning Environments staff during the design process.

Provision must also be made in the ceiling structure for the inclusion of flush mounted speakers, typically 2 to 4 in number, again the final size and position of which will be determined in consultation with QUT Learning Environments staff during the design process.

2.3.2.1 Projection Surfaces

Where possible, the front wall of the room shall be painted matt or low sheen white, to facilitate projection directly onto the wall surface.

Sufficient unobstructed space – a minimum area of 1600mm wide x 1200mm high shall be provided as close as possible to the centre line of the room. This surface needs to be physically flat and unobstructed, ie. no power or network outlets, light switches etc, in this area.

See appendix 3 for further examples of suitable floorplans

Section 3. Physical Requirements for AV5 Lecture Theatres

3.1 Equipment racks

The audiovisual equipment is to be mounted in custom 19” racks, within the lectern assembly. The lectern unit is a standard QUT item, fitted to all lecture theatres across the university. The lectern drawings are available by contacting QUT Integrated Help services, Learning Environments.

Under no circumstances, is audiovisual equipment to be installed in joinery units, within the room.

All power and network outlets and signal cables required for connection to the AV equipment must be provided to the lectern space, generally via a floor trap.

Refer to fig. 7 for a typical AV5 lectern.



Fig. 7 a typical AV5 lectern.

3.2 Room Layout

The lectern is to be positioned at or near to the centre of the room, allowing a gap of 1200mm to 1500mm between the front wall and the lectern, to comply with AS1428 part 2 for access.

Provision must also be made in the ceiling, at the location of the data projector, for power and network connections for the data projector, the final position of which will be determined in consultation with QUT Learning Environments staff during the design process.

Provision must be made also for flush mounted speakers in the ceiling for voice re-enforcement and wall mounted speakers for program sound, the position and quantity of these will be determined in consultation with QUT Learning Environments staff during the design process.

Refer to fig. 8 for a typical AV5 lecture theatre layout.

See appendix 4 for further examples of suitable floorplans

3.2.1 Projection Surfaces

Where possible, the front wall of the room shall be painted matt or low sheen white, to facilitate projection directly onto the wall surface. In a stepped floor theatre, the projection surface can be set above the whiteboard/s.

Sufficient unobstructed space – an area of at least 3000mm wide x 2500mm high shall be provided as close as possible to the centre line of the room. The final dimensions of this area will be determined by QUT learning environments staff during the design consultation process.

This surface needs to be physically flat and unobstructed, ie. no power or network outlets, light switches etc, in this area.

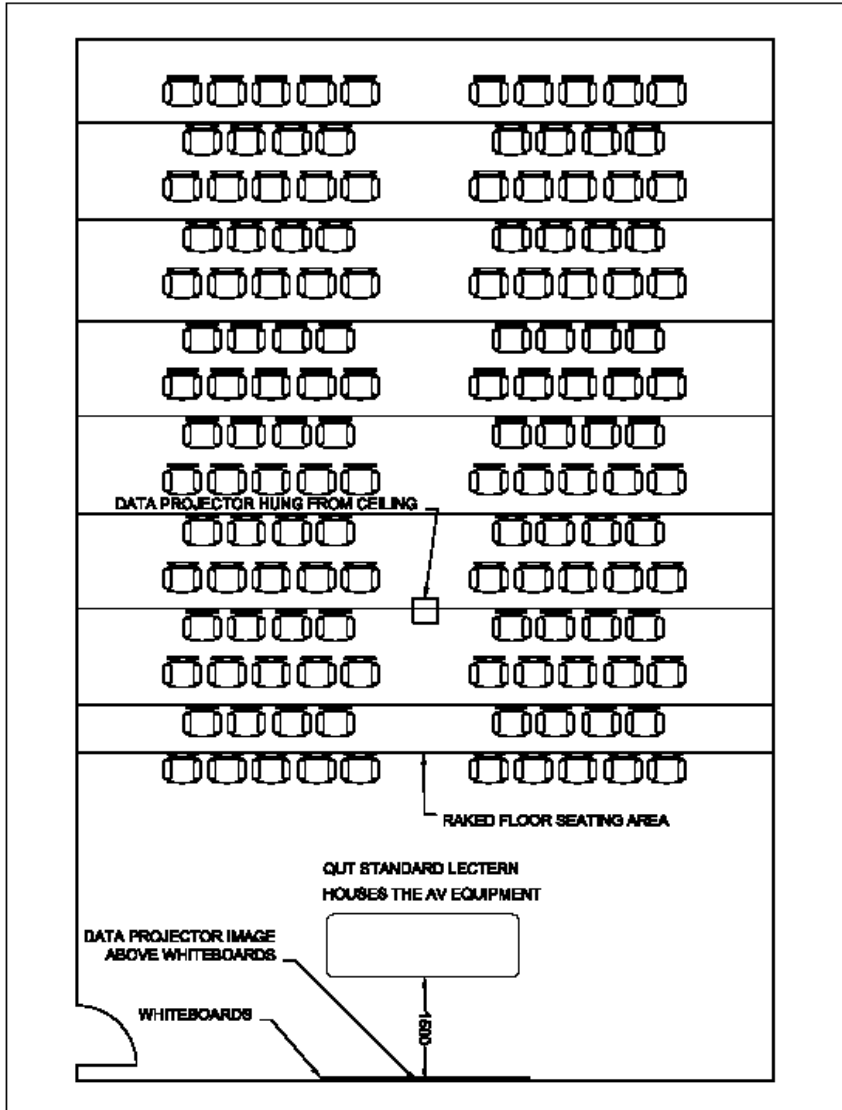


Fig. 8 a typical AV5 lecture theatre layout.



Fig.9 a typical AV5 lecture theatre

Section 4. Physical Requirements for AV6 & AV7 Lecture Theatres

4.1 Equipment racks

The audiovisual equipment for the presenter is to be mounted in custom 19" racks, within the lectern assembly. The lectern unit is a standard QUT item, fitted to all lecture theatres across the university. The lectern drawings are available by contacting QUT Integrated Help services, Learning Environments.

Space in the form of a biobox or projection room is to be provided at the rear of the room, on the rooms' longitudinal centre line. The technical equipment for signal processing and display shall be housed in racks in this space.

Under no circumstances, is audiovisual equipment to be installed in joinery units, within the room.

All power and network outlets and signal cables required for connection to the AV equipment must be provided to the lectern space, generally via a floor trap.

Refer to fig. 10 for a typical AV6 & AV7 lectern.



Fig.10 a typical AV6 & AV7 lectern.

4.2 Room Layout

The lectern is to be positioned at or near to the longitudinal centre line of the room, allowing a gap of 1200mm to 1500mm between the front wall and the lectern, to comply with AS1428 part 2 for access.

A biobox or projection room is to be provided at the rear of the lecture theatre, positioned on the rooms' longitudinal centre line, to provide space for technical and projection equipment, preferably with access both externally and from within the lecture theatre.

Sufficient space for the equipment racks, power outlets, network outlets and ventilation shall be provided in here, the final requirements of which will be determined by QUT Learning Environments staff during the design consultation process.

A cable path, sufficient in capacity to allow for all of the signal cables and future expansion, typically 2 to 4 x 50mm dia. conduits, between lectern and biobox shall be provided. The final requirements of this will be determined by QUT Learning Environments staff during the design consultation process.

Refer to fig.11 for a typical AV6 & AV7 lecture theatre layout.

See appendix 5 for further examples of suitable floorplans

4.2.1 Projection Surfaces

The data projector images/screens are to be located as close as possible to either side of the room centre line and positioned above the whiteboard assembly, to allow uninterrupted viewing from anywhere in the room.

This surface needs to be physically flat, painted matt or low sheen white and unobstructed, ie. no power or network outlets, light switches etc, in this area.

The final dimensions of this area will be determined by QUT learning environments staff during the design consultation process.

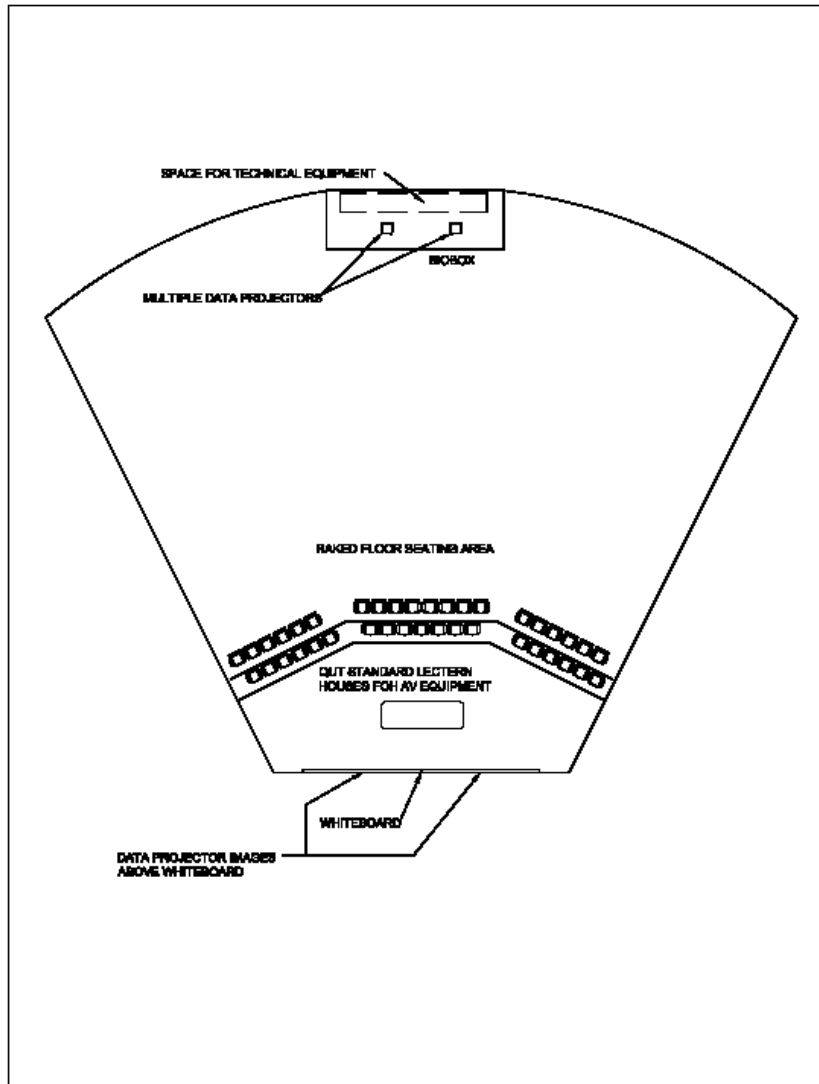


Fig.11 a typical AV6 & AV7 lecture theatre layout.

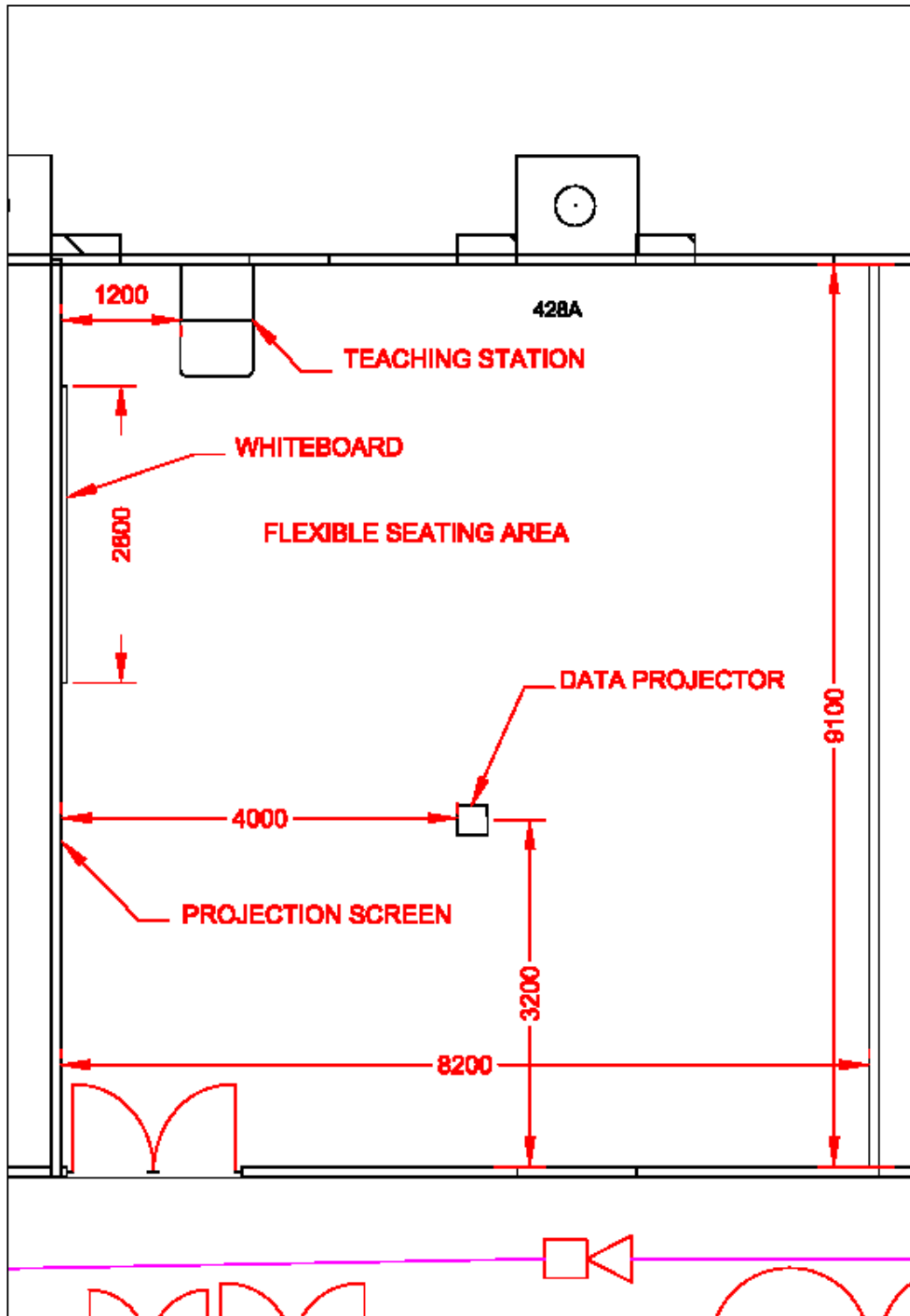
Appendix 1.

Classification System for Teaching Spaces

- AV0 no AV provision
- AV1 a typical classroom with a TV, VCR and OHP
- AV2 as above plus network port
- AV3 a teaching space with an installed data projector and connection point for a computer.
- AV4 a teaching space with a permanent data projector and computer
- AV5 a lecture theatre with comprehensive AV facilities (single data projector)
- AV6 a fully equipped lecture theatre with dual data projectors capable of simultaneous display of two different images
- AV7 As for AV6 with surround sound audio (cinema style).

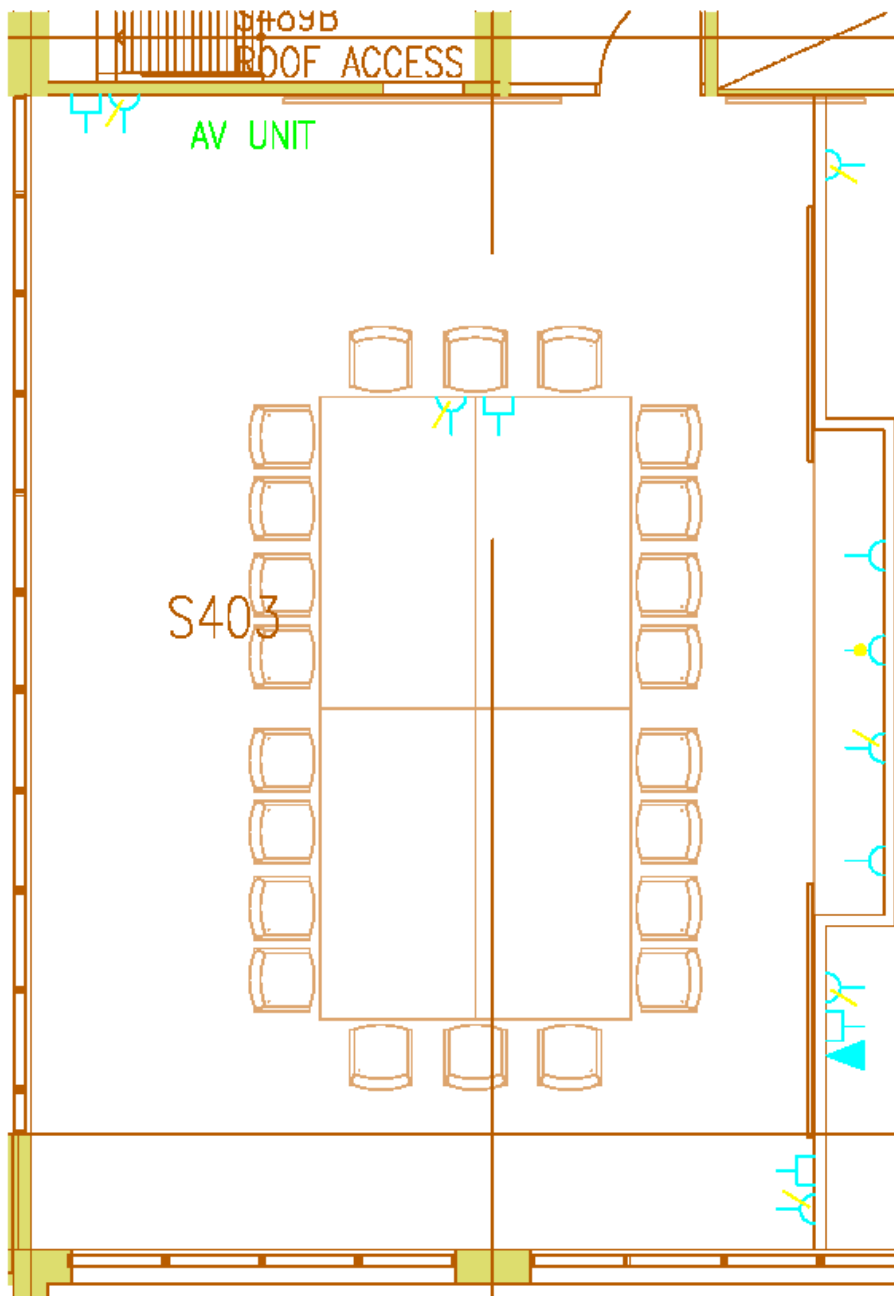
Appendix 2.

Example of a typical AV4 Classroom floorplan



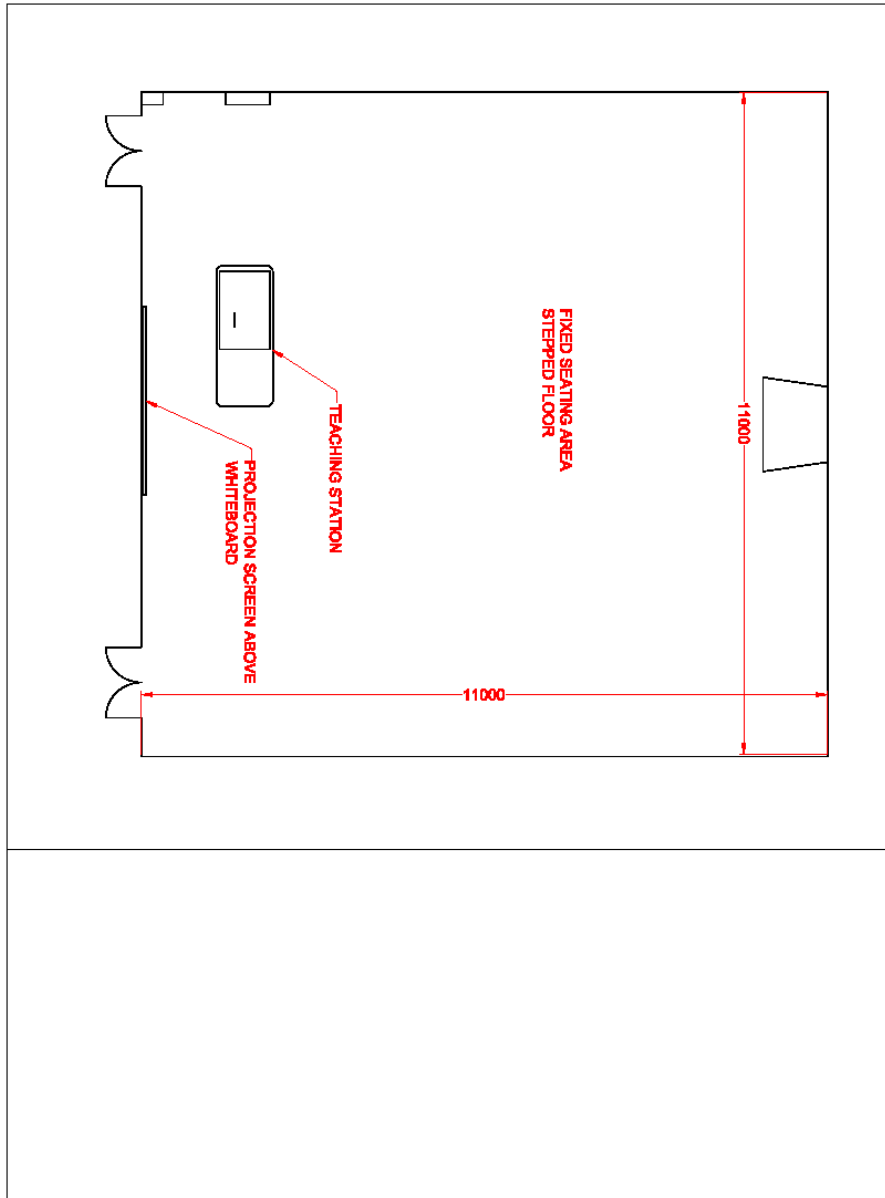
Appendix 3.

Example of a typical Meeting Room floorplan



Appendix 4.

Example of a typical AV5 Lecture Theatre floorplan



Appendix 5.

Example of a typical AV6 or AV7 Lecture Theatre floorplan

