

## University of the West of Scotland - New Campus, Ayr

A new 18,000m<sup>2</sup> building on a green field site. The building was constructed adjacent to the Grade A listed Craigie House, within extensive woodlands. The building incorporates a diverse mixture of accommodation including performance space, rehearsal studios, TV studios, radio studios, music recording studios, classrooms, offices, laboratories and sports complex.

Low-energy, low-carbon design, while achieving high levels of occupant comfort were the main objectives for the services design. This was achieved by a variety of methods in the diverse accommodation at UWS. The majority of the floor plate is ventilated and comfort cooled using displacement ventilation. The comfort cooling in rooms with higher internal gains was supplemented with passive or active chilled beams.

The main heat source for the building is biofuel boilerplant, backed up by conventional gas boiler plant, located in a remote energy centre. Cooling is delivered by roof-mounted free-cooling dry-air coolers, backed up by ultra efficient turbocor chillers.

## Education



NR20 noise levels were achieved in the radio and recording studios using VAV fan coil units.

IES modelling techniques were used extensively to inform the building design including solar-shading analysis for the brise soleil and computational-fluid-dynamics simulations to test the displacement ventilation and chilled beam design.

A range of sustainable and energy efficient measures were incorporated into the design which contributed to the BREEAM Excellent rating for design and procurement.

The works comprised the design, specification and inspection of heating, ventilation, comfort cooling, public health, lighting, electrical services and vertical transportation.