# Glasgow School of Art Course Specification
# Course Title: Architectural Technology 1

*Please note that this course specification is correct on the date of publication but may be subject to amendment prior to the start of the 2025-26 Academic Year.*

| Course Code | HECOS Code | Academic Session |
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| **AT1101** | | 2025-26 |

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| **Course Title** | Architectural Technology 1 |
| **Course Contact** | Virginia Rammou |

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| **Credits** | 30 |
| **SCQF Level** | Level 7 |
| **When Taught** | Semester 2 |

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| **Associated Programmes** | Bachelor of Architecture with Honours |
| **Lead School** | Mackintosh School of Architecture |
| **Other Schools** | N/A |
| **Date of Approval** | Programme Approval March 2024 |

## Course Introduction

The Architectural Technology 1 course introduces students to the principles of architectural science and provides the foundational knowledge of architectural technology in relation to contemporary architectural practice. Students develop and apply specialist technical knowledge through their studio design projects.

The course is delivered and assessed in **three** components as follows:

- The Principles of Building component provides students with an overview of the fundamental constructional principles in the design, construction, and performance of buildings with a focus on crafting the building envelope, informed by low carbon and low energy design, the circular economy, and whole-life design.
- The Structural Design component introduces the fundamental structural design principles utilised in the design, construction, and performance of buildings with a focus on structural forms, grids and systems.
- The Environmental Design component introduces students to the fundamental environmental design principles in the design, construction, and performance of buildings with a focus on thermal environment and comfort informed by the building science concepts of radiation, convection, conduction, solar altitude, climate, embodied energy, and sustainability outcomes.

Whilst the course components are delivered individually and address specific aspects of architectural technology, the compound technical knowledge they deliver is applied holistically through the studio courses.

## Course Aims

The Architectural Technology 1 Course consists of three components: Principles of Building, Structural Design and Environmental Design focusing on:

- construction and materials
- the building envelope
- structural design

- sustainable design principles

The aims of the course are to:

**professional:** introduce students to the principles and practices of building construction and materials, structural design and environmental design of architectural projects

**design/create:** introduce students to the technical knowledge required to address the environmental, socio-economic, ethical, cultural and aesthetic demands of architecture through design

**research:** introduce students to the research skills and tools that focus on the principles and practices of building construction and materiality, structural design and environmental design of architectural outputs

**communication:** introduce students to the visual and verbal conventions of the principles and practices of building construction and materials, structural design and environmental design of architectural projects

**skills:** introduce students to the computer-aided design software to undertake basic environmental evaluation and analysis of building performance data

**knowledge:** introduce students to the knowledge of the role of technology that address the principles and practices of building construction and materials, structural design and environmental design of architectural outputs

**Course Intended Learning Outcomes**

On successful completion of the three components of the Course, students will be able to **examine and demonstrate**:

**professionalism:** knowledge of the principles and practices of the architectonic impact, technical and ethical aspects of researched architectural projects

**design/ create:** the technical knowledge required to address the environmental, socio-economic, ethical, cultural and aesthetic demands of researched architectural projects

**research:** the research skills, and tools that focus on the architectonic impact, technical and ethical aspects required to analyse, design, and the construction of researched architectural projects

**communication:** the visual and verbal conventions of the architectonic impact, technical and ethical aspects of researched architectural projects

**skills:** the ability to use analogue and digital tools to undertake basic structural and environmental evaluation and analysis of building performance data in the context of researched architectural projects

**knowledge:** knowledge of the technologies that address the architectonic impact, technical and ethical aspects in the design of researched architectural projects

**Indicative Content**

At Stage 1, students will be able to understand, examine and demonstrate the integration of Architectural Science into their design projects. Students will explore the areas of structure, construction, materiality and building performance as well as sustainable design principles and will be able to demonstrate how these are utilised in existing design projects and explore how to integrate into their individual architectural designs.

During the Architectural Technology course students will:

- undertake research to explore existing technological design solutions
- explore how to incorporate existing and emerging technical solutions into their design proposals
- explore existing design projects based on their environmental, material, structural and constructional analysis
- understand how structural, materials, constructional and environmental performance concepts can impact their individual designs and the wider construction industry
- be introduced to principles of fire and life safety in relation to construction and material specification
- explore technology as a design generator

**Description of Learning and Teaching Methods**

**Pedagogy:**

The Architectural Technology Course 1 consists of three components, Principles of Building, Structural Design and Environmental Design, which introduce students to specialist technical knowledge and its application to technologically informed architectural solutions. Student learning is developed through specialist lectures, group work and discussion, site visits to specific buildings and construction sites.

**Delivery:**

The course is delivered through weekly lectures, using a range of learning and teaching activities, including lectures, small-group work and plenary discussions.

Private study consists of both staff-directed study and independent student-directed study.

**Timetable:**

Lectures are delivered on a weekly basis, with additional workshop activities, and site visits.

**Canvas:**

The virtual learning environment tool Canvas is used for the dissemination, discussion, and access to relevant course information, and to signpost students to other relevant teaching and learning platforms used by GSA.

| Indicative Contact Hours | Notional Learning Hours |
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| 30 | 300 |

| Description of Formative Assessment and Feedback Methods |
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| Formative feedback is delivered during the course, offering students the opportunity to obtain ongoing staff and peer feedback through presentation, discussion, and review of design projects.<br><br>As such Formative feedback provided throughout the course fosters reflective learning while supporting the Summative graded assessment and feedback process, which generally happens at the end of the course. |

| Description of Summative Assessment arrangements |
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| Summative assessment, generally undertaken at the end of the course, is designed and delivered to support student learning through evaluation of the Intended Learning Outcomes (ILOs) for each course, aligned with the professional competencies required for architectural practice. Summative assessment is undertaken through coursework assignments in the form of three Technical Studies. Coursework assignment submissions involve visual and text-based submissions utilising both digital and physical tools and formats. All three assignments require to be passed to pass the course. Students are supported in preparing their submissions with feedback and provided with example submissions. Written feedback is provided on all summative assessments.<br><br>All submissions will be assessed and moderated in line with the GSA Code of Assessment. Reassessment opportunities where a student has not passed the course are outlined in the GSA Code of Assessment.<br><br>During the academic session, staff deliver assessment workshops with students, clarifying the assessment process delivered within the Programme. |

| Description of Summative Assessment Method | Weight % | Submission week |
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| **Assignment AT 1.1**<br>Students are required to submit a Technical Study for Course Component: Structural Design. This requires students to prepare a report outlining the structural design concepts and solutions of a building. | 33.3% | Week 10 |
| **Assignment AT 1.2**<br>Students are required to submit a Technical Study for Course Component: Principles of Building. This requires students to evaluate the overall construction of a building and the relationship of structure to the building envelope. | 33.3% | Week 10 |
| **Assignment AT 1.3**<br>Students are required to submit a Technical Study for Course Component: Environmental Design. This requires students to prepare a report outlining the environmental, energy solutions for a building. | 33.3% | Week 10 |

| Exchange/Study Abroad | |
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| **Can this course be taken by Exchange/Study Abroad students?** | No |
| **Are all the students on the course taught wholly by distance learning?** | No |

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| **Does this course represent a work placement or a year of study abroad?** | No |
| **Is this course collaborative with any other institutions?** | No |
| **If yes, then please provide the names of the other teaching institutions** | |

| **Reading and On-line Resources** |
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| Supporting the course, an indicative reading and on-line resource list is accessible via Resource Lists. This list will be reviewed and updated annually. Supervisors, tutors and peers will provide further recommendations appropriate to student's chosen research subject. |