

$\frac{1}{2}$ in. scale. Open timber roof, 15th century—35ft. span; principals, 12ft. 6in. apart; $\frac{1}{2}$ in. scale. (References, Brandon's "Open Timber Roofs," Morris's "Gothic Roofs," Viollet le Duc's Dictionary.) Second term: Staircase to a mansion—height, 18ft. from floor to floor, $\frac{1}{2}$ in. scale; details of newels and balusters, 3in. scale; plan of hall, $\frac{1}{2}$ in. scale. Portico of the Doric Order—width, 12ft.; height to apex of pediment, 24ft.; plan, elevation, and section. (References: Chambers, Gwilt's Encyclopædia, Stuart and Revett's.) Detached villa, to cost £3,000—site, 200ft. by 100ft.; plans, sections, and two elevations, $\frac{1}{2}$ in. scale.

Trades under the Instructor in Architecture.—If any student wishes to obtain the higher certificate of expert in any of the "trades" under the instructor in architecture, he must then attend the course of instruction given below, and pass a satisfactory examination in each subject.

B. Building Trades—viz., *Masons, Bricklayers, Carpenters and Joiners, Cabinetmakers, Carriage-builders, &c.*—First year: First term—Perspective, 1, Tuesday; freehand drawing, 1, Friday; mathematics, 1, Wednesday: second term—the same in continuation. Second year: First term—Plane geometry, 1, Monday; physics, 2: second term—solid geometry, 1, Monday. Third year: First term—Applied mechanics, 2, Tuesday and Thursday; trade-class, 2: second term—trade-class, 2. Students wishing for fuller information and advice should apply to the instructor in architecture.

Carpentry and Joinery (Teacher, Mr. John Gardiner).—One year's course of study. Theoretical, Monday and Wednesday, 7.30 p.m.; practical, Friday, 7.30 p.m. Elementary afternoon class, Monday, at 2 o'clock. First term: Instruction in the theory and principles of the trade, combined with making models of joints to scale; the construction and use of plain scales and scale of chords; drawing sections of solids in orthographic and isometric projection, and geometry applied to the trade; the management of tools; the principles of framing and trussing, and the names and proportions of joints in common structures, joints in beams, scaffolds, centres, floors, roofs, partitions, fittings, gates, doors, windows, skirtings; enlarging and reducing mouldings, raking and bevel mouldings and joints, circular work, kerfing, bending, building up, hinges and hinging and furniture, weather-boarding, preparing for plaster, lead- and slate-works. Second term: On advanced subjects of the first course, combined with making models of work to scale, complex floor roof and other structures, staircasing and handrailing, qualities of wood, cutting up and drying by natural and artificial means, measuring plans, setting out work, writing out orders.

Masonry (Teacher, Mr. John Howie).—One year's course of study. Tuesday and Thursday, at 7.30 p.m. First term: Technical drawing—the drawing and methods of obtaining the joints and bevells of arches; explanation of the terms, the description and proper use of tools used in masonry; the nature and properties of bonding foundations, walls, moulded cornices, &c. Second term: Technical drawing—the application of geometry to masonry, and the methods of obtaining and applying moulds, templates, and bevells, by setting out in detail elliptical and oblique arches, domes, niches, groins, raking-mouldings, hanging-stairs, skew-bridges, &c. Practical instruction in the workshop in working the above. Text-books: "Masonry," Edward Dobson (Weale's series); "Masonry," Robert Scott Burn.

Bricklaying (Teacher, Mr. J. Broadhurst).—One year's course of study. Monday and Wednesday, at 7.30 p.m. First term: The proper use of tools, foundations, footings, bonds, air-bricks and cements, cavity-walls and ventilation, damp-courses, brick and stone combined; joints, thick and thin, and their evils; limes and cements; trammels and profiles; drawing, cutting, and setting arches; different kinds of pointing; drainage. Second term: Paving, tiling, the proper use of materials, scaffolding, relieving-arches, bakers' ovens, chimney-shafts; smoky chimneys, their cause; slaters' and plasterers' work; different forms and rules used for measuring brickwork, with examples; practical geometry so far as relates to brickwork; the methods of obtaining and applying moulds, templates, and bevells, in detail of different kinds of arches, raking-moulds, domes, niches, fire-work, tunnels and sewerage, moulded panels and finials. Practical instruction in building to all trades, including the subjects for an expert certificate. Text-books: "Bricklaying" (Cassell), "Bricklaying" (Weale).

Cabinetmaking (Teacher, Mr. Thomas Walker).—One year's course of study. Tuesday and Thursday, at 7.30 p.m. First term: Geometrical and perspective drawing, as applicable to articles of furniture; the practical setting-out of working-drawings; tools and their application; method of jointing, including secret dovetailing and other joints; to prepare veneer and groundwork for veneering—laying veneer. Second term: Inlaying with coloured woods; the application of geometry to cabinet-work; marqueterie-work, buhl-work; glue and its use as applied to different woods; cabinet woods and their uses; the designing of original pieces of furniture.

Carriage-building (Teacher, Mr. Samuel Lownds).—One year's course of study. Tuesday and Thursday, at 7.30 p.m. First term: Copying from diagrams of buggies and carriages, the use of drawing-instruments and implements for carriage-drawings, drawing to scale; to make cant-board and working-plans on the principles of French or square rule applied to carriage-building from side-elevations of buggies and ordinary vehicles, with proportions required for strength, appearance, and space; materials most suitable for these vehicles. Second term: Drawings required for the building of medium-class carriages, phaetons, and broughams, with dimensions and materials most suitable; drawings required for the building of landaus, with dimensions and proportions of all parts belonging to a carriage. Practical class, held on Tuesday evening: First term—Making sweeps, scrolls, and working-patterns from side-elevations; plain jointing and framing: second term—framing sections of bodies, making carriage parts, hanging and setting landau and victoria heads with automatic head-furniture, &c. Text-books: "English Coach- and Harness-makers' Journal," "American Hub and Carriage Journal."

Plumbing (Teacher, Mr. David Nelson).—One year's course of study. Monday and Wednesday, at 7.30 p.m. Syllabus:—First term: The special uses to which iron, lead, zinc, and tin, white- and red-lead, lead-oxides, cements, &c., are applied in plumbing. Solders and soldering; composition