

An architectural drawing or architect's drawing is a technical drawing of a building (or building project) that falls within the definition of architecture.

The draughting process may impose limitations on the size that is realistically workable. Sizes are determined by a consistent paper size system, according to local usage. The scale is chosen both to ensure the whole building will fit on the chosen sheet size, and to show the required amount of detail. At the scale of one eighth of an inch to one foot 1: At a larger scale, half an inch to one foot 1: Construction details are drawn to a larger scale, in some cases full size 1 to 1 scale. Scale drawings enable dimensions to be "read" off the drawing, i. Imperial scales feet and inches are equally readable using an ordinary ruler. On a one-eighth inch to one foot scale drawing, the one-eighth divisions on the ruler can be read off as feet. Architects normally use a scale ruler with different scales marked on each edge. A third method, used by builders in estimating, is to measure directly off the drawing and multiply by the scale factor. Dimensions can be measured off drawings made on a stable medium such as vellum. All processes of reproduction introduce small errors, especially now that different copying methods mean that the same drawing may be re-copied, or copies made in several different ways. Consequently, dimensions need to be written "figured" on the drawing. The disclaimer "Do not scale off dimensions" is commonly inscribed on architects drawings, to guard against errors arising in the copying process. Architectural drawing combining elevation, section and plan: Standard views used in architectural drawing[edit] This section deals with the conventional views used to represent a building or structure. See the Types of architectural drawing section below for drawings classified according to their purpose. Floor plan[edit] A floor plan is the most fundamental architectural diagram , a view from above showing the arrangement of spaces in building in the same way as a map , but showing the arrangement at a particular level of a building. The plan view includes anything that could be seen below that level: Objects above the plan level e. Geometrically, plan view is defined as a vertical orthographic projection of an object on to a horizontal plane, with the horizontal plane cutting through the building. Site plan[edit] A site plan is a specific type of plan, showing the whole context of a building or group of buildings. A site plan shows property boundaries and means of access to the site, and nearby structures if they are relevant to the design. For a development on an urban site, the site plan may need to show adjoining streets to demonstrate how the design fits into the urban fabric. Within the site boundary, the site plan gives an overview of the entire scope of work. It shows the buildings if any already existing and those that are proposed, usually as a building footprint; roads, parking lots, footpaths, hard landscaping , trees and planting. For a construction project, the site plan also needs to show all the services connections: Site plans are commonly used to represent a building proposal prior to detailed design: A site plan is used to verify that a proposal complies with local development codes, including restrictions on historical sites. In this context the site plan forms part of a legal agreement, and there may be a requirement for it to be drawn up by a licensed professional: This is the most common view used to describe the external appearance of a building. Each elevation is labelled in relation to the compass direction it faces, e. Geometrically, an elevation is a horizontal orthographic projection a building on to a vertical plane, the vertical plane normally being parallel to one side of the building. Section drawing of the Observatorium at Potsdam. Cross section[edit] A cross section , also simply called a section, represents a vertical plane cut through the object, in the same way as a floor plan is a horizontal section viewed from the top. In the section view, everything cut by the section plane is shown as a bold line, often with a solid fill to show objects that are cut through, and anything seen beyond generally shown in a thinner line. Sections are used to describe the relationship between different levels of a building. In the Observatorium drawing illustrated here, the section shows the dome which can be seen from the outside, a second dome that can only be seen inside the building, and the way the space between the two accommodates a large astronomical telescope: A sectional elevation is a combination of a cross section, with elevations of other parts of the building seen beyond the section plane. Geometrically, a cross section is a horizontal orthographic projection of a building on to a vertical plane, with the vertical plane cutting through the building. Isometric and axonometric projections[edit] Isometric and

axonometric projections are a simple way of representing a three dimensional object, keeping the elements to scale and showing the relationship between several sides of the same object, so that the complexities of a shape can be clearly understood. There is some confusion about the terms isometric and axonometric. Engineers use the word axonometric as a generic term to include isometric, diametric and trimetric drawings. Despite fairly complex geometrical explanations, for the purposes of practical draughting the difference between isometric and axonometric is simple see diagram above. In both, the plan is drawn on a skewed or rotated grid, and the verticals are projected vertically on the page. All lines are drawn to scale so that relationships between elements are accurate. In many cases a different scale is required for different axes, and again this can be calculated but in practice was often simply estimated by eye. An isometric uses a plan grid at 30 degrees from the horizontal in both directions, which distorts the plan shape. Isometric graph paper can be used to construct this kind of drawing. This view is useful to explain construction details. The isometric was the standard view until the mid twentieth century, remaining popular until the s, especially for textbook diagrams and illustrations. Originally used in cabinet making, the advantage is that a principal side. The lines leading away from the eye are drawn at a reduced scale to lessen the degree of distortion. The cabinet projection is seen in Victorian engraved advertisements and architectural textbooks, [7] but has virtually disappeared from general use. An axonometric uses a 45 degree plan grid, which keeps the original orthogonal geometry of the plan. The great advantage of this view for architecture is that the draughtsman can work directly from a plan, without having to reconstruct it on a skewed grid. In theory the plan should be set at 45 degrees, but this introduces confusing coincidences where opposite corners align. Unwanted effects can be avoided by rotating the plan while still projecting vertically. This is sometimes called a planometric or plan oblique view, [9] and allows freedom to choose any suitable angle to present the most useful view of an object. Traditional draughting techniques used 30° and 45 degree set squares, and that determined the angles used in these views. Once the adjustable square became common those limitations were lifted. The axonometric gained in popularity in the twentieth century, not just as a convenient diagram but as a formal presentation technique, adopted in particular by the Modern Movement. Consequently, it is now rarely used.

Detail drawings [edit] Detail drawings show a small part of the construction at a larger scale, to show how the component parts fit together. They are also used to show small surface details, for example decorative elements. Section drawings at large scale are a standard way of showing building construction details, typically showing complex junctions such as floor to wall junction, window openings, eaves and roof apex that cannot be clearly shown on a drawing that includes the full height of the building. A full set of construction details needs to show plan details as well as vertical section details. One detail is seldom produced in isolation: In traditional construction, many details were so fully standardised, that few detail drawings were required to construct a building. For example, the construction of a sash window would be left to the carpenter, who would fully understand what was required, but unique decorative details of the facade would be drawn up in detail. In contrast, modern buildings need to be fully detailed because of the proliferation of different products, methods and possible solutions.

Perspective in the manner of the classic *Ideal city* by Jean-Max Albert, *Two point perspective, interior of Dercy House* by Robert Adam, *Perspective in drawing* is an approximate representation on a flat surface of an image as it is perceived by the eye. The key concepts here are: Perspective is the view from a particular fixed viewpoint. Horizontal and vertical edges in the object are represented by horizontals and verticals in the drawing. Lines leading away into the distance appear to converge at a vanishing point. All horizontals converge to a point on the horizon, which is a horizontal line at eye level. Verticals converge to a point either above or below the horizon. The basic categorization of artificial perspective is by the number of vanishing points: One-point perspective where objects facing the viewer are orthogonal, and receding lines converge to a single vanishing point. Two-point perspective reduces distortion by viewing objects at an angle, with all the horizontal lines receding to one of two vanishing points, both located on the horizon. Three-point perspective introduces additional realism by making the verticals recede to a third vanishing point, which is above or below depending upon whether the view is seen from above or below. The normal convention in architectural perspective is to use two-point perspective, with all the verticals drawn as verticals on the page. Three-point perspective gives a casual,

photographic snapshot effect. In professional architectural photography, conversely, a view camera or a perspective control lens is used to eliminate the third vanishing point, so that all the verticals are vertical on the photograph, as with the perspective convention. This can also be done by digital manipulation of a photograph taken with a standard lens. Aerial perspective is a technique in painting, for indicating distance by approximating the effect of the atmosphere on distant objects. In daylight, as an ordinary object gets further from the eye, its contrast with the background is reduced, its colour saturation is reduced, and its colour becomes more blue. Care is needed to record the position from which the photograph was taken, and to generate the perspective using the same viewpoint. This technique is popular in computer visualisation, where the building can be photorealistically rendered, and the final image is intended to be almost indistinguishable from a photograph. A sketch is a rapidly executed freehand drawing, a quick way to record and develop an idea, not intended as a finished work. A diagram could also be drawn freehand but deals with symbols, to develop the logic of a design. Both can be worked up into a more presentable form and used to communicate the principles of a design. Complex modern buildings involve a large team of different specialist disciplines, and communication at the early design stages is essential to keep the design moving towards a coordinated outcome. The aesthetic element includes the layout and visual appearance, the anticipated feel of the materials, and cultural references that will influence the way people perceive the building. Practical concerns include space allocated for different activities, how people enter and move around the building, daylight and artificial lighting, acoustics, traffic noise, legal matters and building codes, and many other issues.

Chapter 2 : Category:Architectural drawings - Wikimedia Commons

Understand the architectural sheets. These sheets will usually be numbered "A", such as "A ", or A1-X, A2-X, A3-X and so calendrierdelascience.com sheets will describe and give measurements for the floor plans, elevations, building sections, wall sections and other oriented views of the building design.

Shop drawings What is As-built drawing? As-built drawings are those that made during the construction process; they reflect changes made during that stage, recording differences between the original design and the completed structure. What are measured drawings? Measured drawings are made after construction is completed in contrast to as-built drawings which are based on design drawings used during the construction process. What is a shop drawing? Shop drawings are not produced by architects. The architectural and engineering manufacturing business is a huge one. They always produce a lot of specifications for pre-fabricated components such as elevators, structural steel, trusses, pre-cast, cabinets, windows, appliances, etc. These are called shop drawing An example: An architect is about to design a house, he will need to produce a set of building elements seen in true size, shape, and orientation as his work is the base drawings for other construction works such as electrical, plumbing, engineering, and mechanical. An architect preparing the architectural drawings: The Site Plan First step: He will create the site plan to illustrate the location and orientation on a plot land. The Floor Plan Second step: Floor plans are actually the most important. They illustrate the horizontal dimensions of a building space. And also to illustrate places of openings like doors and windows, finishing and entrances. Also, to define utilities such as stairs, elevators, mechanical room, baths, stores. And not to mention the structural system such as R. C, steel, bearing walls, columns, and beams. In the third step; the architect will make building section drawings. Also to show the types of slab; is it solid slab, hollow block, or just flat slab? Also, to show the building materials to be used such as block, stone, concrete, glass, etc. And again, for details, finishing, and measurements. Elevations are drawing of four main faces of a building: Then there are the details which include assembly drawings, component drawings, structure, and fixing details.

Chapter 3 : Architectural Floor Plan Symbols - calendrierdelascience.com

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History of Architecture Throughout ancient and medieval history, most of the architectural design and construction was carried out by artisans – such as stone masons and carpenters , rising to the role of master builder. Until modern times, there was no clear distinction between architect and engineer. In Europe, the titles architect and engineer were primarily geographical variations that referred to the same person, often used interchangeably. Paper was not used in Europe for drawing until the 15th century but became increasingly available after Pencils were used more often for drawing by The availability of both allowed pre-construction drawings to be made by professionals. Until the 18th-century, buildings continued to be designed and set out by craftsmen with the exception of high-status projects. Such licensure usually requires an accredited university degree, successful completion of exams, and a training period. The use of terms and titles and the representation of oneself as an architect is restricted to licensed individuals by law, although in general, derivatives such as architectural designer are often not legally protected. To practice architecture implies the ability to practice independently of supervision. The term building design professional or Design professional , by contrast, is a much broader term that includes professionals who practice independently under an alternate profession, such as engineering professionals, or those who assist in the practice architecture under the supervision of a licensed architect, such as architectural technologists and intern architects. In many places, independent, non-licensed individuals may perform design services outside the professional restrictions, such design houses and other smaller structures. Practice[edit] In the architectural profession, technical and environmental knowledge, design and construction management, and an understanding of business are as important as design. However, the design is the driving force throughout the project and beyond. An architect accepts a commission from a client. The commission might involve preparing feasibility reports, building audits, the design of a building or of several buildings, structures, and the spaces among them. The architect participates in developing the requirements the client wants in the building. Throughout the project planning to occupancy , the architect co-ordinates a design team. Structural , mechanical , and electrical engineers and other specialists, are hired by the client or the architect, who must ensure that the work is co-ordinated to construct the design. Design role[edit] The architect hired by a client is responsible for creating a design concept that meets the requirements of that client and provides a facility suitable to the required use. In that, the architect must meet with and question the client to ascertain all the requirements and nuances of the planned project. Often the full brief is not entirely clear at the beginning, entailing a degree of risk in the design undertaking. The architect may make early proposals to the client which may rework the terms of the brief. The program or brief is essential to producing a project that meets all the needs of the owner – it is a guide for the architect in creating the design concept. It is generally expected that the design proposal s is both imaginative as well as pragmatic, but the precise extent and nature of these expectations will vary, depending on the place, time, finance, culture, and available crafts and technology in which the design takes place. Designing buildings is a very complex and demanding undertaking, no matter what the scale of the project might be. A strong degree of foresight is a prerequisite. Any design concept must at a very early stage in its generation take into account a great number of issues and variables which include qualities of space s , [8] the end-use and life-cycle of these proposed spaces, connections, relations, and aspects between spaces including how they are put together as well as the impact of proposals on the immediate and wider locality. Selection of appropriate materials and technology must be considered, tested and reviewed at an early stage in the design to ensure there are no setbacks such as higher-than-expected costs which may occur later. The site and its environs, as well as the culture and history of the place, will also influence the design. The design must also countenance increasing concerns with environmental sustainability. The architect may introduce intentionally or not , to greater or lesser degrees, aspects of mathematics and architecture , new or current architectural theory , or references to architectural history. A key part of the design is that the architect often consults with

engineers, surveyors and other specialists throughout the design, ensuring that aspects such as the structural supports and air conditioning elements are coordinated in the scheme as a whole. The control and planning of construction costs are also a part of these consultations. Coordination of the different aspects involves a high degree of specialized communication, including advanced computer technology such as BIM Building Information Management , CAD, and cloud-based technologies. At all times in the design, the architect reports back to the client who may have reservations or recommendations, introducing a further variable into the design. Architects deal with local and federal jurisdictions about regulations and building codes. The architect might need to comply with local planning and zoning laws, such as required setbacks, height limitations, parking requirements, transparency requirements windows , and land use. Some established jurisdictions require adherence to design and historic preservation guidelines. Health and safety risks form a vital part of the current design, and in many jurisdictions, design reports and records are required which include ongoing considerations such as materials and contaminants, waste management and recycling, traffic control and fire safety. Means of design[edit] Previously, architects employed drawings [6] to illustrate and generate design proposals. While conceptual sketches are still widely used by architects, [9] computer technology has now become the industry standard. Increasingly, computer software such as BIM is shaping how architects work. Renewable energy sources may be developed within the proposed building or via local or national renewable energy providers. As a result, the architect is required to remain abreast of current regulations which are continually tightening. Some new developments exhibit extremely low energy use. Construction role[edit] As the design becomes more advanced and detailed, specifications and detail designs are made of all the elements and components of the building. Techniques in the production of a building are continually advancing which places a demand on the architect to ensure that he or she remains up to date with these advances. Architects typically put projects to tender on behalf of their clients, advise on the award of the project to a general contractor , facilitate and then administer a contract of agreement which is often between the client and the contractor. Depending on the type of contract utilized, provisions for further sub-contract tenders may be required. The architect may require that some elements are covered by a warranty which specifies the expected life and other aspects of the material, product or work. In most jurisdictions, prior notification to the relevant local authority must be given before commencement on site, thus giving the local authority notice to carry out independent inspections. The architect will then review and inspect the progress of the work in coordination with the local authority. The architect will typically review contractor shop drawings and other submittals , prepare and issue site instructions, and provide Certificates for Payment to the contractor see also Design-bid-build which is based on the work done to date as well as any materials and other goods purchased or hired. In the United Kingdom and other countries, a quantity surveyor is often part of the team to provide cost consulting. With very large, complex projects, an independent construction manager is sometimes hired to assist in the design and to manage construction. In many jurisdictions, mandatory certification or assurance of the completed work or part of works is required. This demand for certification entails a high degree of risk - therefore, regular inspections of the work as it progresses on site is required to ensure that is in compliance with the design itself as well as with all relevant statutes and permissions. Alternate practice and specializations[edit] Recent decades have seen the rise of specializations within the profession. Many architects and architectural firms focus on certain project types for example, healthcare, retail, public housing, event management , technological expertise or project delivery methods. Some architects specialize as building code, building envelope , sustainable design , technical writing , historic preservation US or conservation UK , accessibility and other forms of specialist consultants. Many architects elect to move into real estate property development , corporate facilities planning, project management , construction management, interior design , city planning, or other related fields.

Chapter 4 : Architect - Wikipedia

Architecture drawing is a two-dimensional presentation of a multi-dimensional brainstorm. Architectural drawings can also be used as teaching tools to help students envision and communicate ideas.

Chapter 5 : Architectural Drawing | eBay

An architect is a person who plans, designs, and reviews the construction of calendrierdelascience.com practice architecture means to provide services in connection with the design of buildings and the space within the site surrounding the buildings, that have as their principal purpose human occupancy or use.

Chapter 6 : Online Architectural Designs | Floor Plan | Front Elevation | Home Design: DArchitectDrawings

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Chapter 7 : How to Read Architect's Drawings (with Pictures) - wikiHow

An architectural drawing is a technical drawing of a building (or building project). Architectural drawings are used by architects for a number of purposes: to develop a design idea into a coherent proposal, to communicate ideas and concepts, to enable construction by a building contractor, and to.

Chapter 8 : Architectural drawing - Wikipedia

An architect preparing the architectural drawings: The Site Plan; First step: he will start by the site plan which is a view looking down at a building from above. He will create the site plan to illustrate the location and orientation on a plot land.

Chapter 9 : Modern House Plans - Architectural Designs

One is an original architectural drawing dated All in good antique condition with creases, folds and discoloration to be expected.