

Q&A for December webinar - Lighting University - The training for lighting design (12152016)

Q: What is the difference in the role of a lighting designer and lighting engineer?

A:>> Architectural lighting design may be executed by a lighting designer, a lighting engineer but also by an independent specialist practicing in related occupations such as electrical engineering, architecture, interior design and manufacturing. Everyone practicing lighting design remains generally rooted in its professional/educational origins which implies a specific orientation when lighting design is applied. Engineers practicing lighting design show generally a very technical approach, sometimes missing compositional considerations or lacking aesthetics and a more general attention to human experience. Conversely, these competences are peculiar to architects and designers.

Q: I as an electrical engineer can be a successful lighting designer without having an architect background and a more logic than artistic mind? Can the perception of sensibility to lighting be acquired in this case?

A:>> There is a very wide bibliography of books about lighting which can serve as basic information to learn the many aspects of light and lighting design. As a suggestion, the IALD Learn2light library is a very precious archive of light related books: <https://www.iald.org/IALD-Education-Trust/STUDENTS/learn-2-light/Lighting-Library>.

In addition to reading and studying, it is also very beneficial to attend conferences, lighting fairs, to read magazines, to participate to seminars, workshop and short courses.

In particular, the basic topic to be acquired through reading, courses and other forms of education are: History of lighting design, physiology and perception, lighting physics, light sources, lighting equipment, the practice of lighting design. In this regards, working as a lighting designer by nature suggests a working knowledge of 'AutoCAD' and an ability to read plans, sections and elevations, since these are routine and daily communications instruments. As with any design profession, practical training such as an internship, practical workshop experience (one or two practical "hands-on" workshops during the period of studies) or mentorship is beneficial to optimize academic learning.

Q: Which CAD program would you recommend the most for lighting design?

A:>> In Europe, the most used lighting calculation software are Dialux, Relux, Revit, AGI32 and also 3D Studio Max. A comprehensive list of lighting related software with a short description can be found at <http://www.luce.polimi.it/en/linksoftware-en>

Q: Is lighting design more about arts or more of science? Or its 50-50 both?

A:>> Lighting design as a profession combines the art and science of designing with daylight and electric light to support the creation of good quality living and working spaces for human beings. Most definitions position lighting design in a sort of tension between the technical/scientific side of the profession which is supported by the illuminating engineering knowledge and the creative/artistic side which favours the aesthetics and the experience enhancement.

The answer to this question is that the lighting design approach is flexible in applying the technical and creative side in a "percentage" which depends on the specific application. As an example, there are projects which falls in specific technical categories where quantifiable visual demanding performance and task driven activities are supported by standards, codes of practice and regulation which are intended to be used as reference. In these cases, the technical side has to be emphasized over the artistic creative side.

Q: Where may we receive Education of Lighting Design, in India?

A:>> At our knowledge in India there are not courses of lighting design but there are two programs related to Lighting Engineering: a three years School Of Illumination Science, Engineering and Design at the Jadavpur University and a M.Tech Energy management & Lighting course which is a two year

program at Manipal institute of Technology. Unfortunately, we cannot confirm if they are still open and which are the program they offer because their website doesn't provide further information.

Q: As a person working in lighting over 18 years who wants to get into Lighting design, is there an online school you could recommend?

A:>>Unfortunately there are no online full structured lighting courses which can be followed remotely to gain education in lighting design.

Q: Can you tell a private lighting designer course in English or German for three to four weeks and where it is held?

A:>> Unfortunately we don't have this so specific information. For English or Germany courses we suggest you to check the list at the following link: <https://goo.gl/axNDO6>

Q: I am a product designer based in Spain. I have joined this event due to my interest in lighting design field. I would like to ask you if your methodology is more about the use of light itself in different scenarios or designing a lighting product?

A:>> The term "lighting design" applies to a variety of related professional practices, which involve the application and performance of different characteristics of light. In particular, for the webinar we have focused on the architectural lighting design which refers to the design of lighting for functional or aesthetics effects related to the architectural construct.

Lighting designers needs to know the lighting technologies and the lighting equipment in order to properly use them in the application field required. In particular occasions, lighting designers can design customized or bespoke luminaire when they need specific performance and features which are not available in producers catalogues. In particular, lighting designer can design luminaire when:

- Special lighting concepts requires special customized lighting products
- Special clients ask specifically for special customized lighting fixtures
- LEDs components can be used effectively as luminaires (if properly designed)

It is also important to state that generally lighting designer cope with manufacturers for the design and development of this bespoke luminaire. This is because the design of a luminaire require other details and knowledge than the ones that are required to a lighting designer.

Q: How is the lighting design different with LED vis-à-vis conventional light source?

A:>> In the lighting design education and profession, there are fundamental and unchanged aspects of light relative to spatial geometry, physics and human perception. These aspects are the core of the design field and need to be emphasized in the education. In addition to this, several transformations with technology, controls and regulations require constant upgrading both of education and profession. In particular LED lighting technology has featured a wide change in terms of a new luminous technology offering different opportunities and advantages but also showing several limitation or at least new features to take into account while designing. New developments in lamp and luminaire technologies derived from LEDs are being introduced into the marketplace continually. Lighting designer are given higher possibility of customization, of inclusion of lighting in the architecture with smaller dimensions, of higher energy efficiencies, of the possibility to control and change lighting (and colour) in many ways. In addition to this, LEDs needs the lighting designer knowledge, control extra care of thermal behaviours, chromaticity in many different aspects, from spectral power distribution, chromaticity uniformity to chromatic rendering, durability and stability of the technology and LEDs luminaire. The LED lighting systems need to be considered as a capital investment so the proper lighting choice needs to be a balance between providing the best quality of light, meeting energy codes creatively, understanding the challenges of designing with LEDs, specifying the controls now available.

Q: If I am just selling lighting, what is best level to get? I do not have an education as English or Architect. But have been in construction for years.

A:>> In order to best sell lighting fixtures is important to know well the product specifications and applications which requires a minimum knowledge of the lighting standards, photometric readings and light source technology. Basic courses on lighting design might help you to improve your skills about designing spaces with light and the knowledge about lighting components for better integration with architecture even though you might have already some practical experience in the construction field, but unfortunately, not many building services have followed a proper lighting design scheme. Therefore, we would advise you to have a specialized lighting designer to better advice you on your selling's. The lighting designer's expertise in visual perception, state-of-art technology, budgeting, daylight integration, energy effective lighting design and specifications can be of a great value for the incomes. Including a qualified professional lighting designer in the project team increases the likelihood that the project will be visually appealing, comfortable, safe, economically and energy effective and maintainable.

Q: Will there be Industry wise designation other than university degrees?

A:>> Considering the fact that the profession is still developing and that there is still room for any kind of recognition/certification, everything is possible.

Many manufacturers cooperate actively with universities or associations to create didactic paths for different professional figures. In this scenario, courses in which universities are not involved can also exist. The important thing is that the competences given must be complete, correct and not vitiated by the logics of the market.

Q: How can I best develop my lighting design skills from a hobby to profession?

A:>> Lighting design requires a series of competences that cannot be considered as a hobby from our point of view because lighting can affect people at many levels. Lighting design should address the impact of light on health; the way we can use daylight as a natural and sustainable resource; the consequences of light pollution; the effects on the environment produced by the energy taken to power light, as well as the need to address lighting as a factor of wellbeing for instance. Therefore, it should be treated with responsibility. The lighting designer's expertise in visual perception, state-of-art technology, budgeting, daylight integration, energy effective lighting design and specifications cannot be seen as a secondary role in the design process. Thus, In order to best develop the profession one should get the necessary knowledge about lighting and being a professional means to have extensive theoretical knowledge and to possess skills based on that information that they are able to apply in practice. Thus, the best way to become a professional would be to get a proper knowledge form recognized educational programs and compulsory internships with professional lighting designers to get the necessary experience in the field and best develop the profession.

Q: How to get a lighting design certification based on experience and work developed?

A:>> Nowadays, there is the Certified Lighting Designer (CLD) certification which is the first evidence-based certification in architectural lighting design in the world. The certification process is designed to assess whether an individual is able to operate as a lead architectural lighting designer in a professional and proficient manner. The CLD is a global benchmark of performance, making it a valuable addition to your existing qualifications and portfolio of work. To be eligible, you need at least three years of experience as a lead architectural lighting designer and the ability to demonstrate your professional competency. Due to the multi-disciplinary backgrounds of lighting designers, there was a strong need

for a valid professional certification as a valid recognition. You can find more information about the CLD at this link: <http://www.cld.global/>

Q: Is there difference for Lighting designer who is doing lighting simulations with Dialux & Architectural facade lighting?

A:>> Dialux (as well other software) can help the designer to evaluate quantities and compliance to standards. Some users are capable of use it quite effectively also for the renderings. Having said this, software is just a tool. Unfortunately, sometimes it happens (even involuntarily) that the mechanics of the tools, affect the approach on the project. Some solutions are implemented instead of others just because they have been easier to achieve within the software. It is useless to say that the concept phase and the decisions of the designers, should never be limited by the tools he uses. In this sense, if the lighting designer do not let Dialux (as any other software) affect in a negative way his creative process, the difference is that software can save him some time. But it should be a choice of the designer.

Q: How can I become a lighting consultant?

A:>> As previously said, "lighting" as a subject is extremely broad. Starting with the idea of "I want to know everything about light", can turn out to be a quit difficult (or at least may require long time). A good way to start, should be identifying a field of application that suits you best and beginning to put together a pack of competences that allow you to work in that field. Trying to gather knowledge on everything in such a wide and transversal field will result in less structured competence. So a way to begin is to specialize in a field (retail, cultural heritage, residential, theatre, installations, etc.) and grow more competences from there.

Where to find the right notions? Nowadays information is all around. It is difficult to find a place or a person that, like a guru, can give you something that is not available in other places.

Putting together the right notions; the ones that allow you to enter the word of work in the fastest, efficient, way possible: that's the difficult thing.

We do not say that it's impossible to do that by yourself, but for sure, attending a course that is built to create a well-defined (and well rounded) professional figure, can help you to save a lot of time. Choose a course that you can afford (there are many, just look at <https://goo.gl/axNDO6>) and ask to the organization, where, a person that take part to their course, may work in the future. Think if that is a profession that suits you, and then decide.

Q: Who typically hires the lighting designer?

A:>> A lighting designer is typically hired to address lighting requirements on different scales of the projects going from highly complex projects types such as museums, large retails spaces, lighting masterplans and working offices buildings for example until simple private residences or small urban areas. The role of the lighting designer in a project team has a growing relevance, and this is the true not only for large-scale, up-market projects but also for everyday architectural design. Lighting design has many similarities with architectural design from the point of view of the design process. Like architecture, lighting design is primarily concerned with the "built environment". Therefore, the lighting designer can be hired either by private clients, architects or construction groups or even by public administrations. A lighting designer can work on specialized offices in lighting that can be organized similarly to an architect's office, with a Lighting Designer Director, an architectural Project manager, a Lighting engineer, an electrical engineer and a draughtsman for example or the lighting designer can be inside a larger architectural and engineering companies. In addition, the lighting designer can be hired by lighting fixtures manufactures for the development of lightings products and lighting consultancy services developed by the companies.

Q: Are there any education resources available to me as a residential design build interiors professional? I am interested for competitive differentiation and client value add?

A:>> Residential areas are not heavily standardized. This leave to the designers a wide range of choices, so to add value to the project the designer should focus more on other aspects. Valorisation of the architectural shapes. Attention to the needs of the human beings living the environment in relation of the destination of use of the space. Specific requests of the clients, colours, materials, geometry of the surfaces, and all that orbit and interact with light in the designed space. So competences that may be involved are multiple. After all, probably the best choice is to start by users who live the designated space, so, the interaction between light and human being.

Q: Can you describe an emotional lighting from the point of view of lighting designer?

A:>> On a human scale, light has the power to transform our environment, to create ambiances, to render architecture and to shape our perception of the world. Lighting emphasizes the simplicity of a form and enhances the beauty of a scene or a space by an intelligent use of contrast, shadows and colour use. Due to the strong power of attraction, lighting has a symbolic dimension and the ability to communicate intentions with light by balanced lighting levels and interpretation of the space. This is the ephemeral or permanent role that lighting designers can develop to transform a place, reveal a strategic urban objective and rediscover a forgotten territory for example. Also there is the lighting poetic dimension which is capable of revealing the invisible, evidencing forms, illustrating the evolution of a landscape, highlighting a construction site and modifying in a positive way the nocturnal image of a place that each one has about his /hers current environment and future developments.

Q: Some applications are not attractive like industrial and road lighting; how can a lighting designer add values to these applications?

A:>> Introducing the service benefits of professional lighting design services is an ongoing challenge. In order to meet both the aesthetic and functional responsibilities, the lighting designer should provide a variety of technical expertise applications and highly developed visual sense design oriented. Lighting Designers have the potential to add value with their creative sense of design and at the same time to reduce costs and enhance performance through the application of good lighting even for road lighting applications. Good lighting enhances the mood and desirability of these spaces as well as better integration with the urban characteristics from an architectural and design quality point of view. The initial investment in a professional lighting designer is offset by a reduction of construction and operating costs. Therefore, lighting designer will add value to any project, whether large or small, interior or exterior, public or private. The lighting designer work demonstrate how light can take on a multitude of roles in architecture, built environments and cities through innovative combinations of art and, sciences and crafts.

Q: What is the application of lighting simulation tools, in lighting design? In which stages and how much these tools can be useful?

A:>> The application of lighting software usually comes handy when evaluating quantities (compliance of the standard). Obviously a good knowledge of both, software and standard is necessary to not fall in blunders. Another field in which software can be useful is the representation of the scene. Algorithms used by calculation tools are diffused also in representation software (like Autodesk 3DS Max, for instance). If the scene is well modelled, the light sources are photometric files, and the materials are correctly set, the resulting images can be not only photorealistic, but also correct from a photometric point of view. So basically, the applications are: control of the lighting values in the project (compliance with standards) and the visual representation of the scene. Just one little note on visual representation: simple images (or videos) are not always enough to explain a project to a client. This is due to the limit of the tool (computer/monitor/printer) compared to the human perception. Nevertheless, visuals are important to give a quick impression to a client (if not used to "cheat").

Q: How to enhance lighting experience base on the cultural expectation where to start?

A:>> The valorization of local culture is understood as fundamental part of the value of lighting design strategies. Because local culture means local light. Both culture and geography strongly influence preferences according to lighting levels, the application of color, brightness contrast, the use of shadows, among other preferences from north to south in the Globe. As a departing point, one can think about the daylight properties as reference point to define its relation with artificial lighting, but also the way in which people experience its patterns and rhythms can be used as an important data to define the lighting requirements and its relation to the surrounding space. Geography can also determine the time people spend indoor and outdoor which will later determine the uses of the spaces and the related lighting levels required as well as the color temperature for the lighting sources can be related to cultural and geographical references.

Q: How do we differentiate to be called "professional" lighting designers? for example an architect with 10 years architectural lighting specialty but didn't formally study lighting design in university, compared to someone who formally study lighting?

A:>> Today it is still very difficult to differentiate real professional lighting designers from those who have only skills of managing a lighting software which call themselves also lighting designers. Unfortunately, the lighting design professional has not a recognized professional chamber yet, even though lighting design have a number of strengths which align with the previous definition of profession such as the skills and theoretical knowledge already illustrated in the webinar. Therefore, in order to be defined as a professional lighting designer, it is not mandatory to follow lighting design course at University level. For instance, most of the renowned lighting designers today with more than 20 years of experience have not followed specific lighting courses but they have learned by practicing and testing solutions according to the technology available and continuous upgrading their knowledge by close interface with clients and manufactures to spread this profession. What can make an upgrade for those who wish to be certified as professional lighting designers, is the memberships into a lighting design association or to obtain the Certified Lighting Designer (CLD) certification already mention in a question above. The existence of international professional associations such as IESNA, IALD for instance, means that there is an awareness of specialized body of knowledge, and recognized professionals in the lighting design field that one can be selected or chose to be part of a large community of lighting designers.