Utbildningsplan

Masterprogram, ljus, design och hälsa
Master's Programme, Architectural Lighting Design and Health, 120 credits
120,0 högskolepoäng

Gäller för antagna till utbildningen fr o m HT10.

Utbildningens mål

The program Architectural Lighting Design and Health is based on the quality descriptions for Degree of Master, two years (Higher education ordinance, issued by the Swedish national agency for higher education).

After completing the courses' requirements the students must be able to demonstrate the following knowledge, skills and judgments.

Kunskap och förståelse

- Broad and deep scientific based knowledge in the area of electrical light and daylight
- In-depth and thorough knowledge in the area of Architectural Lighting Design and Health
- Ability to apply advanced knowledge in the area, both professionally and scientifically.

Färdigheter och förmågor

- Independent ability to identify, formulate, analyze and solve problems in the area of Architectural Lighting Design, for electrical and daylight solutions.
- Ability to perform all phases of the design process to the development of architectural lighting design projects, for outdoor and indoor environments, following the KTH method.
- Ability to apply advanced techniques and tools in the area.
- Ability to present and communicate results in an international environment.
- Ability to develop scientific work.

Värderingsförmåga och förhållningssätt

- Ability to independent and critical analysis of results in the area.
- Show a professional and ethical responsibility in scientific, technical, ecological and social activities.
- Have understanding that Architectural-related problems, considered from a design, building and urban perspective are often complex, can be incompletely defined and sometimes contain conflicting conditions.

Utbildningens omfattning och innehåll

The program consists of a two-year full time studies corresponding to 120 credits.

Educational level is advanced.

The teaching language is English.

Individual adjustment of the duration of the program is possible.

It is a mainly a one-track program.

Complete information on the degree requirements can be found at the local degree policy of KTH, see http://intra.kth.se /regelverk/utbildning-forskning/grundutbildning/examina/1.27227?l=en_UK

Behörighet och urval

In order to be eligible to apply to the master's program, a higher education degree of at least 180 higher education credits of Bachelor's degree in Architecture, Design or Engineering must be completed. The Engineering degree must contain at least 50 credits of Architecture and Design subjects.

A good knowledge of written and spoken English. Applicants must provide proof of their proficiency in English.

Admission to the program is based on the following criteria (in order of priority):

Assessment of university/higher education institute; grades in degree; grades in courses relevant to the program; work experience relevant to the program; and letter of recommendation and references.

Complete information on the eligibility requirements can be found at the local admission policy of KTH, see http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/antagning/1.27192?l=sv_SE

Utbildningens genomförande

Utbildningens upplägg

The study year is partitioned into four study periods, three during the autumn term and one during the spring term, plus the degree project (master thesis). The program starts in late August and ends in the beginning of June the following year. The program is given at Campus Haninge, KTH, School of Technology and Health.

The programme includes eighteen months taught courses, which sums up to 120 hp (120 ECTS); 1.5 hp(1.5 ECTS) corresponds to one week of full time studies

The program consists of the following courses and subjects.

Term 1:

Light and Humans

Basis of light for humans, in its cultural, historical and social developments.

Light and Lighting vocabulary.

Theoretical basis for design process, having light as shaping element of physical spaces.

The character of light sources and their field of application.

Materials and how they can be used and effect on light distribution.

Workbook presentation and reflections

Light and Space - Outdoor

Theoretical basis for outdoor lighting – landscape and urban.

Methodology and tools for the outdoor design process, from concept to calculation.

Full scale applications and tests.

Urban planning and analysis, sustainability and energy issues.

Workbook presentation and reflections

Light and Science

Light and theory putting the theoretical knowledge in relationship with the practical application.

In this module, the students will use their knowledge to contemplate in existing environments and make a case study to evaluate the lighting qualities, within writing an academic text.

Workbook presentation and reflections

Term 2:

Light and Space – Indoor

Theoretical basis for indoor lighting – architectural qualities and indoor spaces structures and complexity.

Methodology and tools for the lighting design process, from concept to proposal.

Daylight basics.

Full-scale mock-ups and tests.

Visual evaluations and calculation tools.

Workbook presentation and reflections

Luminaire Design

Theoretical basis in luminaire design: methodology and tools.

History of luminaire design.

Character of light sources and their fields of application.

Lighting distribution, reflectors constructions, material features.

Tests, measurements, full-scale mock-ups.

Workbook presentation and reflections

Term 3

Daylight and Architecture

Methods of daylight applications in buildings treating the complex co-ordination of daylight design (qualities, calculation, visualizations).

Physical and visual based definitions.

Materials, constructions, architectural, climate and functional effects.

Sustainability effects and energy calculation.

Workbook presentation and reflections

Depth in Lighting Design

Depth the knowledge in the field, in relation to contemporary issues and the professional practice.

Light and Health, Ergonomics and Well-being.

New technologies.

Visualization and marketing tools.

Theory of Science

Existing theories of science with relevance to the field as basis for the development of design approaches to scientific works and academic thinking to design projects.

Methodologies of research.

Term 4

Degree project

The teaching language is English. Course descriptions and syllabuses can be found at http://www.kth.se/student /kurser/?l=en_UK

Course names and numbers are listed in Appendix 1.

Kurser

Utbildningen sker i kursform. Kurslistor finns i bilaga 1.

Betygssystem

För kurser på KTH används en sjugradig målrelaterad betygsskala A-F som slutbetyg för kurser på grundnivå och avancerad nivå. A-E är godkända betyg med A som högsta betyg. Betygen godkänd (P) och underkänd (F) används som slutbetyg då särskilda skäl föreligger.

Villkor för deltagande i utbildningen

Term enrolment

A condition in order to be able to participate in the studies is that the student must enroll for the next term. This is done on the first day of the term. With the enrolment, the student has submitted their intention of studying and participating in the program.

Only after that is it possible for the student to:

- register for courses

- register for the term

- get results

To be promoted to the second academic year of the program at least 45 higher education credits have to be completed during the first academic year (including the re-examination period in August).

Tillgodoräknanden

The student has the possibility to apply to receive credit from courses taken at another university/higher education institution both in Sweden and from abroad. The application can be found on KTH’s web page. KTH’s policy for recognition of previous academic studies, see

http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/prestationer/1.27200?l=sv_SE

Examensarbete

The degree project gives the student an opportunity to show his/hers ability of independent work in the main area of the program, as well as writing reports and scientific papers.

The degree project work can be started only after a large portion of the studies have been completed. Adviser for the degree project is appointed by the program director.

More information on the KTH policy on the degree project can be found at

http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/examensarbete/1.27212?l=sv_SE

Examen

In order to graduate with the Degree of Master of Science (120 ECTS), a passing grade must be achieved in all courses in the student's study plan. The study plan must comprise 120 credits including a degree project consisting of 30 credits.

Complete information on the degree requirements can be found at the local degree policy of KTH, see http://intra.kth.se /regelverk/utbildning-forskning/grundutbildning/examina/1.27227?l=en_UK

Bilaga 1 - Kurslista
Bilaga 2 - Inriktningsbeskrivningar

Bilaga 1: Kurslista

Masterprogram, ljus, design och hälsa (TLDHM), Utbildningsplan för kull HT2010

Gemensamma kurser

Årskurs 1

Obligatoriska kurser (60,0 hp)

Kurskod	Kursnamn	hp	Utb. nivå
HS2006	Ljusarmaturdesign	15,0	Avancerad nivå
HS2007	Ljus och människa	9,0	Avancerad nivå
HS2008	Ljus och rum-utomhusbelysning	12,0	Avancerad nivå
HS2009	Ljus och rum-inomhusbelysning	15,0	Avancerad nivå
HS2010	Ljus och teori	9,0	Avancerad nivå

Årskurs 2

Obligatoriska kurser (61,5 hp)

Kurskod	Kursnamn	hp	Utb. nivå
AK2036	Vetenskapsteori och vetenskaplig metodik med tillämpningar (naturvetenskap)	7,5	Avancerad nivå
HS2011	Dagsljus och planeringsmetoder	12,0	Avancerad nivå
HS2012	Ljusdesign - fördjupning	12,0	Avancerad nivå
HS202X	Examensarbete inom Ljusdesign och hälsa, avancerad nivå	30,0	Avancerad nivå

Bilaga 2: Inriktningar

Masterprogram, ljus, design och hälsa (TLDHM), Utbildningsplan för kull HT2010

Programmet har inga inriktningar.