Programme syllabus

An accessible version of the syllabus can be found in the Course and programme directory.

Master's Programme, Architectural Lighting Design
60 credits

Magisterprogram, ljusdesign

Valid for students admitted to the education from autumn 10 (HT - Autumn term; VT - Spring term).

This is a translation of the Swedish, legally binding, programme syllabus.

Programme objectives

The program Architectural Lighting Design is based on the quality descriptions for Degree of Master, one year (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.
Knowledge and understanding

- Broad scientific based knowledge in the area of electrical light and daylight
- In-depth and thorough knowledge in the area of Architectural Lighting Design
- Ability to apply advanced knowledge in the area, in both practical and academic situations.

Skills and abilities

- Independent ability to identify, formulate, analyze and solve problems in the area of Architectural Lighting Design, for electrical and daylight solutions
- Ability to formulate a concept for outdoor and indoor architectural lighting following the Design process and 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 make judgements and adopt a standpoint

- 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.

Extent and content of the programme

The program consists of a one-year full time studies corresponding to 60 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.
Eligibility and selection

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 https://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/antagning/1.27192?l=sv_SE

Implementation of the education

Structure of the education

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 nine months taught courses, which sums up to 60 hp (60 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

**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.

Courses

The programme is course-based. Lists of courses are included in appendix 1.

Grading system

Courses in the first and the second cycle are graded on a scale from A to F. A-E are passing grades, A is the highest grade. The grades pass (P) and fail (F) are used for courses under certain circumstances.

Conditions for participation in the programme

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

Recognition of previous academic studies

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
Degree project

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/examsarbete/1.27213

Degree

In order to graduate with the Degree of Master of Science (60 ECTS), a passing grade must be achieved in all courses in the student’s study plan. The study plan must comprise 60 credits including a degree project consisting of 15 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

Appendix 1 - Course list
Appendix 2 - Programme syllabus descriptions
Appendix 1: Course list

Master's Programme, Architectural Lighting Design (TLODM)

General courses

Year 1

Mandatory courses (60.0 Credits)

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<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Credits</th>
<th>Edu. level</th>
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<tbody>
<tr>
<td>HS2007</td>
<td>Light and Humans</td>
<td>9.0 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>HS2008</td>
<td>Light and Space-Outdoor</td>
<td>12.0 hp</td>
<td>Second cycle</td>
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<td>HS2009</td>
<td>Light and Space-Indoor</td>
<td>15.0 hp</td>
<td>Second cycle</td>
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<td>HS200X</td>
<td>Degree Project in Architectural Lighting Design, Second Cycle</td>
<td>15.0 hp</td>
<td>Second cycle</td>
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<tr>
<td>HS2010</td>
<td>Light and Science</td>
<td>9.0 hp</td>
<td>Second cycle</td>
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Optional courses

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<th>Code</th>
<th>Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>HS2006</td>
<td>Luminaire Design</td>
<td>15.0 hp</td>
<td>Second cycle</td>
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</table>
Appendix 2: Specialisations

Master's Programme, Architectural Lighting Design (TLODM)

This programme has no specialisations.