

## IMT6201 Colour Science - Study plans 2016-2017

**Course code:**

IMT6201

**Course name:**

Colour Science

**Course level:**

PhD (syklus 3)

**ECTS Credits:**

5

**Duration:**

Other

**Duration (additional text):**

Autumn or Spring semester, on agreement with the course responsible.

**Language of instruction:**

English

**Prerequisite(s):**

IMT4072

or equivalent postgraduate course in colour science

**Expected learning outcomes:**

The aim of this course is to equip the student with an advanced knowledge of current research in colour science, and the ability to critically evaluate previous work and to conduct original research in colour science topics.

**Skills**

- Construct and implement cross-media colour reproduction workflows, and critically evaluate the methods used.

**Knowledge**

- Compare methods of calculation of whiteness, colour rendering and metamerism indices, and evaluate their validity and range of application.
- Make judgements about the ability of current models to make estimates of scene colour appearance and of colour difference under different conditions of illumination

**General competencies**

- Evaluate the performance of colour measurement and colour specification systems
- Appraise measurement data with respect to precision, accuracy, validity and reproducibility

**Topic(s):**

- Metrology for capture of scene radiance, colorimetry and appearance
- Cross-media colour reproduction
- The state of the art and current research in CIE colorimetry
- Colour order systems, colour spaces and advanced colour difference formulas.
- Colour appearance and the human visual system

**Teaching Methods:**

Lectures

Net Support Learning

Project work

Meeting(s)/Seminar(s)

**Teaching Methods (additional text):**

All students will be required to be physically present and participate in two seminars/workshops which will include lectures, demonstrations, laboratory work, and project work. The exact times of these workshops will be announced before the start of the semester.

**Form(s) of Assessment:**

Other

**Form(s) of Assessment (additional text):**

- Exam. One-hour oral exam.
- Term paper
- Students must pass both parts.

**Grading Scale:**

Pass/Failure

**External/internal examiner:**

Evaluated by external and internal examiner.

**Re-sit examination:**

A new term paper must be provided and the examination must be re-sat next autumn.

**Tillatte hjelpemidler:****Examination support:**

- Dictionary
- Approved scientific calculator

**Academic responsibility:**

Faculty of Computer Science and Media Technology

**Emneansvarlig kobling:**

[John Philip Green](#)

**Course responsibility:**

Associate Professor Phil Green

**Teaching Materials:**

Basic textbook:

- Ohta & Robertson (2005), Colorimetry: Fundamentals and Applications, Wiley

Additional books:

- János Schanda (2007) Colorimetry. Understanding the CIE system, Wiley
- R. W. G. Hunt (1998) Measuring Color 3rd, Fountain Press
- P. Green and L. MacDonald (2002), Color Engineering: Achieving Device Independent Colour, Wiley
- Wyszecki & Stiles (1982). Color science: Concepts and methods, quantitative data and formulae. 2nd ed., Wiley
- R. Berns (2000), Billmeyer and Saltzman's Principles of Color Technology" 3rd ed, Wiley
- Recent peer-reviewed publications
- P. Green (2010) Color Management, Wiley

**Publish:**

Yes