

Indian Institute of Technology, Kanpur
Proposal for a New Course

1. Course No: DES6XX

2. Course Title: **Type Design and Font Engineering**

3. Per Week Lectures: 1 (L), 0 (T), 6 (P), 0 (A)

Credits ($3 \times L + 2 \times T + P + A$): 9

Duration of Course: Full Semester

4. Proposing Department/IDP: Department of Design

Other Departments/IDPs which may be interested: HSS

Proposing Instructor(s): Subhajit Chandra

5. Course Description:

Type Design and Font Engineering introduces students from the design of letterforms to the development of digital fonts. The course combines an understanding of the history and principles of type design with practical exercises in drawing, constructing and refining glyphs. Students will learn how to develop a consistent set of characters and convert their designs into functional digital fonts. The course also introduces font encoding, character mapping, spacing, kerning and OpenType features.

6. Objectives

The course aims to develop an understanding of typeface design and the technical processes involved in producing digital fonts. The objectives are to:

- Understand the history of type design and the influence of writing systems, printing technologies and digital tools on its development.
- Study the structure of letterforms and the principles that contribute to a consistent typeface.
- Develop skills in drawing, constructing and refining glyphs for a selected script.
- Understand the technical aspects of font production, including character encoding, glyph mapping, spacing, kerning and OpenType features.
- Develop the ability to produce, test and refine functional digital fonts for print and digital applications.

7. Contents (preferably in 5–10 broad titles)

S. No	Lecture Module	Descriptions *	No. of Classes
1	Module 1	History of Type Production, Principles of Type Design, and Foundations of Font Technology	8
2	Module 2	Letterform Analysis, Drawing and Typeface Development, Digital Type Construction, Scaling and Rendering	8
3	Module 3	Spacing, Kerning Hinting and Typographic Composition	10
4	Module 4	Font Testing, Font Quality, Legibility and Final Project	10

* Studio hours will be used to work on the assignments/projects as needed. Appropriate materials will be required for these classes.

Pre-requisites:

None (Basic familiarity with design processes is desirable)

Learning Outcomes:

Upon completion of the course, students will be able to:

- Explain the historical development of type production and the principles of type design.
- Understand and describe how digital outlines are constructed, scaled and rendered on different output devices.
- Construct and refine glyphs while maintaining consistency across a character set.
- Understand and develop skill of spacing, kerning and hinting of digital letters.
- Evaluate the quality and legibility of typefaces across different sizes and applications.

Assessment Criteria and Weightage:

- End Semester Exam: 10%
- Assignments and studio work: 20%
- Presentations: 20%
- Project: 50%

8. Short Summary for Course Booklet

This course introduces students to the fundamentals, history and practice of typography, with an emphasis on print and digital media. It develops skills in letterform design, type composition and layout with Latin and non-Latin typefaces. The course adopts a practice-oriented approach to help students understand the role of typography in communication.

9. References:

1. Karow, P. (1994). Font Technology: Methods and Tools. Springer Berlin Heidelberg.
2. Karow, P. (1994). Digital Typefaces: Description and Formats. Springer Berlin Heidelberg.
3. Cheng, K. (2020). Designing Type (2nd ed.). Yale University Press.
4. Noordzij, G. (2005). The Stroke: Theory of Writing. Hyphen Press.
5. Smeijers, F. (1996). Counterpunch: Making Type in the Sixteenth Century, Designing Typefaces Now. Hyphen Press.

10. Any other remarks

The course combines theoretical study with studio practice to help students understand the relationship between typeface design and digital font technology. Students will examine how the construction, spacing and rendering of letterforms influence typographic quality and legibility. The final project will involve developing a typeface, producing a functional digital font and evaluating its performance across different sizes and applications.

Dated:_____ Proposer:_____

Dated:_____ DUGC/DPGC Convener:_____

The course is approved / not approved

Chairman, SUGC/SPGC

Dated:_____