

GUJARAT TECHNOLOGICAL UNIVERSITY (GTU)

Competency-focused Outcome-based Green Curriculum-2021 (COGC-2021)

Semester -II

Course Title: Text Generation

(Course Code: 4325801)

Diploma programmes in which this course is offered	Semester in which offered
Printing Technology	Second

1. RATIONALE

For printing technologists, it is necessary to have skills in working with text. In the printing industry, every printed product consists of various styles and forms of the text portion. The aim of this course is to develop the skill of typesetting with its suitability of design, subject, and the printing process, proofreading.

2. COMPETENCY

The purpose of this course is to help the student to attain the following industry identified competency through various teaching-learning experiences:

- **Compose visually dynamic design layouts that effectively communicate and support the content of a design.**

3. COURSE OUTCOMES (COs)

The practical exercises, the underpinning knowledge, and the relevant soft skills associated with the identified competency are to be developed in the student for the achievement of the following COs:

- a) Use appropriate typeface for typesetting by applying knowledge of type analogy.
- b) Select appropriate fonts, spacing, and line lengths
- c) Use copy fitting procedure to fit given data and handle the data
- d) Proof the document using various proofing mark
- a) Use typographical elements for the given graphic product

4. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P/2)	Examination Scheme				
				Theory Marks		Practical Marks		Total Marks
L	T	P	C	CA	ESE	CA	ESE	
3	-	4	5	30*	70	25	25	150

(): Out of 30 marks under the theory CA, 10 marks are for assessment of the micro-project to facilitate the integration of Cos, and the remaining 20 marks is the average of 2 tests to be taken during the semester for assessing the attainment of the cognitive domain UOs required for the attainment of the COs.*

Legends: *L-Lecture; T – Tutorial/Teacher Guided Theory Practice; P -Practical; C – Credit, CA - Continuous Assessment; ESE -End Semester Examination.*

5. SUGGESTED PRACTICAL EXERCISES

The following practical outcomes (PrOs) are the sub-components of the COs. *Some of the PrOs marked '*' (in approx. Hrs column) are compulsory, as they are crucial for that particular CO at the 'Precision Level' of Dave's Taxonomy related to 'Psychomotor Domain'.*

S. No.	Practical Outcomes (PrOs)	Unit No.	Approx. Hrs. required
1	Design a sketch of type and its different parts	I	02*
2	Design a sketch and show different anatomy of type	I	02
3	Test the readability and legibility of content	I	02
4	Measure the type and leading using pica scale	I	02
5	Prepare a typeface chart of different fonts	II	02
6	Implement text setting, alignment paragraph setting using software	II	02
7	Type chapter in regional language with different type, spacing, alignment, etc.	II	02*
8	Typeset bookwork using DTP software	II	06
9	Prepare newspaper design showing indentation and multi-column work setting	II	06
10	Prepare artwork design for large display advertisement	II	02*
11	Apply different marks like bleed marks, crop marks, folding marks, registration marks to design	II	02*
12	Install font in windows operating systems	II	02
13	Identify different pitfalls with fonts and solve issues.	II	02
14	Calculate the number of pages required for a given manuscript.	III	02*
15	Copy fitting the manuscript in given pages by traditional copy fitting methods	III	02
16	Copy fitting the manuscript in given pages by digital copy fitting methods	III	02
17	Make a chart of Proofreading marks	IV	02*
18	Proofread any five-page document using proofreading marks	IV	02*
19	Correct mistakes and proofread the documents again	IV	02*
20	Preflight check the documents using the software.	IV	02*
21	Create a master page for the book using software	V	02*
22	Apply text wrapping using the software.	V	02
23	Insert pages, illustrations, links, objects, header and footer, clipart, text, and symbols.	V	02
24	Prepare a Table of Content for any books and set an indent	V	02
25	Create a template for the book	V	02
26	Prepare a child book using software	V	02
27	Prepare imposition scheme for 8 pages of a given size and form in a half sheet work (work and turn style)	V	02
28	Prepare imposition scheme for 16 pages of a given size and form in a half sheet work (work and tumble style)	V	02
29	Prepare full sheet imposition scheme for 8 pages of a given size	V	02

S. No.	Practical Outcomes (PrOs)	Unit No.	Approx. Hrs. required
30	Design of two-page layout using software indicating verso and recto, bleed for cover page	V	02
31	Design invitation card	V	02
32	Design label for a specific product	V	02
33	Create a logo of your initial	V	02
Minimum 28 Practical Exercises			56 Hrs.

Note

- i. More **Practical Exercises** can be designed and offered by the respective course teacher to develop the industry-relevant skills/outcomes to match the COs. The above table is only a suggestive list.
- ii. The following are some **sample** 'Process' and 'Product' related skills (more may be added/deleted depending on the course) that occur in the above listed **Practical Exercises** of this course required which are embedded in the COs and ultimately the competency.

S. No.	Sample Performance Indicators for the PrOs	Weightage in %
1	Question and answers	20
2	Organize text matters and other graphical elements	20
3	Creativity in design	20
4	Readability, legibility, and appropriateness	20
5	Submission of assigned work	20
Total		100

6. MAJOR EQUIPMENT/ INSTRUMENTS REQUIRED

This major equipment with broad specifications for the PrOs is a guide to procure them by the administrators to usher in uniformity of practicals in all institutions across the state.

S. No.	Equipment Name with Broad Specifications	PrO. No.
1	Computers Windows 11 or Windows 10, 64-bit, with latest Updates Intel Core i3/5/7/9 or AMD Ryzen 3/5/7/9/Thread ripper, EPYC Open CL 1.2-enabled video card with 3+ GB VRAM 8+ GB or more recommended 512 GB or more hard disk space 1280 x 720 screen resolution at 100% (96 dpi) DVD drive optional (for box installation); Internet nodes	1 to 28
2	Color printer A3 Color Laser Printer, Copy and Scan Print speed up to 30 ppm (black), 50 ppm (color) USB 2.0,	1 to 28

S. No.	Equipment Name with Broad Specifications	PrO. No.
	Ethernet, Hardware Integration Pocket Black and white printer Laser printer Multi-function Monochrome Black, toner cartridge Copy and scan print speed up to 30 ppm (black) USB 2.0, Ethernet, Hardware Integration Pocket	
3	CorelDRAW Graphics Suite 2020 or above	1 to 12
4	Illustrator Software version CC2020	12 to 28

7. AFFECTIVE DOMAIN OUTCOMES

The following **sample** Affective Domain Outcomes (ADOs) are embedded in many of the above-mentioned COs and PrOs. More could be added to fulfill the development of this competency.

- a) Work as a leader/a team member.
- b) Follow safety practices
- c) Practice Good housekeeping
- d) Follow ethical practices
- e) Realize the importance of green energy.

The ADOs are best developed through laboratory/field-based exercises. Moreover, the level of achievement of the ADOs according to Krathwohl's 'Affective Domain Taxonomy' should gradually increase as planned below:

- i. 'Valuing Level' in 1st year
- ii. 'Organization Level' in 2nd year.
- iii. 'Characterization Level' in 3rd year.

8. UNDERPINNING THEORY

The major underpinning theory is given below based on the higher level UOs of *Revised Bloom's taxonomy* that is formulated for the development of the COs and competency. If required, more such higher-level UOs could be included by the course teacher to focus on the attainment of COs and competency.

Unit	Unit Outcomes (UOs) (4 to 6 UOs at different levels)	Topics and Sub-topics

<p>Unit – I</p> <p>Type Anatomy</p>	<p>1a. Describe typefaces</p> <p>1b. Explain text generation with developing stages</p> <p>1c. Classify typefaces according to their visual similarities and describe them.</p> <p>1d. Differentiate between serif and sans serif</p> <p>1e. Distinguish between hot metal and cold type</p> <p>1f. Use dimensional attributes of type for typesetting</p> <p>1g. Suggest and use the typeface for typesetting</p>	<p>1.1 Typeface</p> <p>1.2 Development of various typeface, letterforms, face groups, type family</p> <p>1.3 Type Classification and its variation Uppercase versus lowercase, Parts of type, weight, leading, width, style, text, display, decorative, non alphabetic</p> <p>1.4 Function of type composition appropriateness, readability Vs. legibility, type color, tight spacing, loose spacing, unbalance spacing</p> <p>1.5 History of manufacturing metal type.</p> <p>1.6 Mechanical typesetting and phototypesetting</p> <p>1.7 Cold type and hot metal typesetting</p> <p>1.8 Type measurement and point system.</p> <p>1.9 Use of different variations like bold, italic, condensed, expanded, color type, screen type, onscreen reverse, decorative type, display type,</p>
<p>Unit – II</p> <p>Computerized typesetting</p>	<p>2a. Define font and its type</p> <p>2b. Differentiate between different fonts</p> <p>2c. Appropriate use of fonts</p> <p>2d. Solve the font-related issue arising during designing</p> <p>2e. Appropriate use of spacing and line lengths</p> <p>2f. Set the spacing required for different designs.</p> <p>2g. Selection of correct file formats</p>	<p>2.1. Fonts</p> <p>2.2. Digital letterforms: outlined, bitmapped,</p> <p>2.3. Font format: postscript, open type, true type, Macintosh fonts, web fonts, Unicode underlying technology - ASCII Format, RTF format, Unicode program-specific text files, fonts for windows and MAC operating system</p> <p>2.4. Character versus glyph, character map,</p> <p>2.5. Font compatibility issues, pitfall with fonts</p> <p>2.6. Appropriate software for word processing</p> <p>2.7. Working with typography templates</p> <p>2.8. Installing and activating fonts</p> <p>2.9. Adobe type manager</p> <p>2.10. Kerning tables</p> <p>2.11. Spacing: letter spacing, word spacing, line spacing, paragraph spacing, page sizes, and line length, long lines</p>
<p>Unit– III</p>	<p>3a. Set the link between artistic process and production process.</p>	<p>3.1 Concept of Copy fitting or casting off</p> <p>3.2 Verbal copy, copy for marking,</p>

Copy fitting and data interfacing	<p>3b. Acquire the knowledge of three types of copy needed for print production</p> <p>3c. Handle verbal copy for typesetting and control white space management</p> <p>3d. Identify the development of typesetting methods and current conditions</p> <p>3e. Calculate page required for a given manuscript</p> <p>3f. handle various types of text</p>	<p>dummy, copy for printing, layout, imposition</p> <p>3.3 Types of copy fitting: manual copy fitting and digital copy fitting</p> <p>3.4 Concept of interfacing</p> <p>3.5 Mounting Text</p> <p>3.6 Using the structured manuscript</p> <p>3.7 Using tagged manuscript</p> <p>3.8 Using XML format manuscript</p> <p>3.9 Linking layout to text database</p> <p>3.10 Working with text editing parallel with layout work</p> <p>3.11 Collecting documents, images, and fonts, working with server, storing the file in a structured way, naming files and folders, metadata, file managers, digital asses management</p>
Unit– IV Proofing	<p>4a. Justify the need for proofing</p> <p>4b. Classify types of proofing</p> <p>4c. Familiarize yourself with some common proofreading symbols and their applications</p> <p>4d. Differentiate between different proofing process</p>	<p>4.1 Need of proofing</p> <p>4.2 Different proofing processes: soft proof, hard proof, contract proof, machine proof, digital proof, shade card,</p> <p>4.3 Preflight software</p> <p>4.4 Proofreading marks and needs</p> <p>4.5 Requirement and qualification of a proofreader</p>
Unit– IV Structural elements of Design	<p>4a. Explain different typographical elements</p> <p>4b. Use typographical elements to prepare design</p> <p>4c. Construct tables, index, style sheets</p> <p>4d. Solve language-specific issues in typography</p> <p>4e. Plan a page layout and define how to organize verbal and visual elements</p>	<p>5.1 Introduction to different typographical elements</p> <p>5.2 Chapter headings, subheadings, Extracts, outline formats and table contents, navigation tools, page numbers or folios, running heads, jump lines, end marks, captions and legends, footnotes and endnotes, indexes, bibliographies</p> <p>5.3 creation of tables and indexes</p> <p>5.4 creation of style sheets</p> <p>5.5 language specific issues</p>

9. SUGGESTED SPECIFICATION TABLE FOR QUESTIONPAPER DESIGN

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Type Anatomy	12	5	9	9	23
II	Computerized Typesetting	12	5	9	9	23

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
III	Copy fitting and data interfacing	6	2	4	2	8
IV	Proofing	4	2	2	2	6
V	Structural elements of design	8	2	4	4	10
Total		42	16	28	26	70

Legends: R=Remember, U=Understand, A=Apply and above (Revised Bloom's taxonomy)

Note: This specification table provides general guidelines to assist students in their learning and to teachers to teach and question paper designers/setters to formulate test items/questions to assess the attainment of the UOs. The actual distribution of marks at different taxonomy levels (of R, U, and A) in the question paper may vary slightly from above table.

10. SUGGESTED STUDENT ACTIVITIES

Other than the classroom and laboratory learning, the following are the suggested student-related **co-curricular** activities that can be undertaken to accelerate the attainment of the various outcomes in this course: Students should conduct the following activities in group and prepare reports of about 5 pages for each activity, also collect/record physical evidence for their (student's) portfolio which will be useful for their placement interviews:

- Make a poster on a social issue in A3 size. You may use graphics to support the text but it should primarily be a typographical design. Try to achieve typographic expressions by experimenting with the orientation, size, position, space, weight, width, and style of the chosen font. Choose appropriate colors to support the theme of the poster
- Find examples of various fonts and alignments from printed sources like newspapers, magazines, brochures, newsletters, etc., and analyze them. Also, try to find out the font that this book has been set in.
- Choose any two words and in two different compositions arrange each word to express its meaning (one word per composition). Do not use any graphics or images. Your design should be 6 x 6 inches in black and white.
- Select a poem or a short story and illustrate words from it like love, freedom, justice, success, dream, etc. The chosen graphics and fonts should help in communicating the meaning of the word.
- Prepare a type specification catalog of any ten fonts with different variations.
- Use different online free software like canva, greeting island to make different posters, calendars, logos, etc.
- Prepare one you-tube post for logo designing
- Prepare one Instagram reel for colorful logo designing
- Design different stationery for nearby NGO
- Design different brochures on different state government and central government schemes for going green and circulate by various social sites.

11. SUGGESTED SPECIAL INSTRUCTIONAL STRATEGIES (if any)

These are sample strategies, which the teacher can use to accelerate the attainment of the various outcomes in this course:

- a) Massive open online courses (**MOOCs**) may be used to teach various topics/subtopics.
- b) Guide student(s) in undertaking micro-projects.
- c) '**L**' in **section No. 4** means different types of teaching methods that are to be employed by teachers to develop the outcomes.
- d) About **20% of the topics/sub-topics** which are relatively simpler or descriptive in nature is to be given to the students for **self-learning** but to be assessed using different assessment methods.
- e) With respect to **section No.10**, teachers need to ensure to create opportunities and provisions for **co-curricular activities**.
- f) Guide students on how to address issues on the environment and sustainability.
- g) Guide students for using type manuals, color charts, Pantone books.

12. SUGGESTED MICRO-PROJECTS

Only one micro-project is planned to be undertaken by a student that needs to be assigned to him/her at the beginning of the semester. In the first four semesters, the micro-project are group-based (group of 3 to 5). However, **in the fifth and sixth semesters**, the number of students in the group should **not exceed three**.

The micro-project could be industry application-based, internet-based, workshop-based, laboratory-based, or field-based. Each micro-project should encompass two or more COs which are in fact, an integration of PrOs, UOs and ADOs. Each student will have to maintain a dated work diary consisting of individual contributions in the project work and give a seminar presentation of it before submission. The duration of the micro-project should be about **14-16 (fourteen to sixteen) student engagement hours** during the course. The students ought to submit micro-project by the end of the semester to develop the industry-oriented COs.

A suggestive list of micro-projects is given here. This has to match the competency and the COs. Similar micro-projects could be added by the concerned course teacher:

- a) Prepare a report on workflow and functioning of different departments and also study their data interfacing system after visiting a newspaper pre-press house.
- b) Prepare a college newsletter and print it.
- c) Prepare posters for different college and departmental events.
- d) Visit any well-known graphic designer and discuss skill requirements for designing and prepare a report.
- e) Collect the data on the most widely used font and prepare a report on it.
- f) Collect 10 books, recognize fonts, and font sizes used in them. Prepare a short report on it.
- g) Conduct a survey of any two regional newspapers or famous novels on readability and legibility
- h) Visit different free font websites and download different fonts and classify them into different typographical groups.
- i) Prepare a children's book, select a type suitable for this work also use graphics to support the text but focus on typography.

- j) Make a poster on the greenhouse effect in A3 size. You may use graphics to support the text but it should primarily be a typographical design. Try to achieve typographic expressions by experimenting with orientation, size, position, space, weight, width and style of the chosen font. Choose appropriate colors to support the theme of the poster
- k) Prepare designs on the save environment concept and publish them on various social media, college websites, notice board etc.

13. SUGGESTED LEARNING RESOURCES

S. No.	Title of Book	Author	Publication with the place, year, and ISBN
1	The complete manual of typography	James Felici	Peachpit1249 Eighth Street Berkeley, CA 94710, 2012ISBN-13: 978-0-321-77326-5
2	Design elements typography fundamentals	Theraja B. L.	Rockport Publishers, United States of America in 2012ISBN 978-1-59253-767-9
3	Thinking with type	Ellen Lupton	Princeton architectural press, Newyork, 2010 IBSN:1-56898-448-0

14. SOFTWARE/LEARNING WEBSITES

- ilovetypography.com
- typographyserved.com
- typographicposters.com
- designshack.net
- friendsoftype.com
- designobserver.com
- blogs.adobe.com/typography
- typophile.com

15. PO-COMPETENCY-CO MAPPING

Semester I	Text Generation (Course Code: 4325801)						
	POs						
Competency & Course Outcomes	PO 1 Basic & Discipline specific knowledge	PO 2 Problem Analysis	PO 3 Design/ development of solutions	PO 4 Engineering Tools, Experimentation &Testing	PO 5 Engineering practices for society, sustainability & environment	PO 6 Project Management	PO 7 Life-long learning
<u>Competency</u>	Use principles of electrical engineering in solving branch specific engineering problems.						
<u>Course Outcomes</u> CO a)Use appropriate typeface for typesetting by	3	2	3	-	2	-	-

applying knowledge of type analogy.							
CO b) Select appropriate fonts, spacing and line lengths.	3	2	3	-	2	-	-
CO c) Use copy fitting procedure to fit given data and handle the data	3	2	3	-	2	-	-
CO d) Proof the document using various proofing mark	3	2	3	-	2	-	-
CO e) Use typographical element for the given graphic product	3	2	3	-	2	-	-

Legend: '3' for high, '2' for medium, '1' for low and '-' for no correlation of each CO with PO.

16. COURSE CURRICULUM DEVELOPMENT COMMITTEE

GTU Resource Persons

S. No.	Name and Designation	Institute	Contact No.	Email
1	S. D. Gohel	R. C. Technical Institute, Sola, Ahmedabad	8460609775	sandy_printmedia@yahoo.com
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NITTTR Resource Persons

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