
SYLLABUS FOR BOARD OF STUDIES ADOPTION — generated from the live catalogue record

Natural Language Processing Applications

S-04A · 3 days (configurable 1–5 days) · Informatics · AI · Years: 2nd, 3rd, PG

CONTENTS

1. Overview	2
2. Hours and credit position	2
3. Course outcomes	2
4. Course content — modules	2
5. Assessment scheme (100 marks)	2
6. CO–PO mapping	2
7. Every participant receives	3
8. Fee	3
9. Designed by	3

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OVERVIEW

Tokenisation, embeddings, sentiment and a working text-classification application.

Text is the most abundant data in business; NLP skills let students build search, classification and sentiment tools that employers immediately value.

HOURS AND CREDIT POSITION

Contact hours: 24 Guided project: 6 Self-study: 0 Notional total: 30

Credit claim: 1

30 notional hours ÷ 30 hours per credit (NSQF track, UGC Micro-credentials Guidelines §5.3.3) = 1 credits.

COURSE OUTCOMES

CO1. Preprocess raw text through tokenisation and normalisation (K3)

CO2. Represent text numerically using TF-IDF and embeddings (K3)

CO3. Build a text classifier and evaluate its accuracy (K3)

CO4. Apply a pre-trained transformer model to a language task (K3)

CO5. Deploy a text-classification application on real data (K3)

COURSE CONTENT — MODULES

Hours shown are the recommended format; module time scales proportionally when the engagement runs 1–5 days.

Module 1 — Text foundations (4h recommended)

Theory: Tokenisation, normalisation, stemming and lemmatisation

Lab: Preprocess a raw text corpus

Output: Preprocessing notebook

Module 2 — Representations (4h recommended)

Theory: Bag-of-words, TF-IDF, word embeddings

Lab: Vectorise text and inspect similarity

Output: Representation notebook

Module 3 — Text classification (4h recommended)

Theory: Sentiment, topic labelling, evaluation

Lab: Build and evaluate a classifier

Output: Classifier notebook

Module 4 — Sequence tasks (4h recommended)

Theory: Named-entity recognition, part-of-speech basics

Lab: Extract entities from documents

Output: Entity-extraction notebook

Module 5 — Modern NLP (4h recommended)

Theory: Transformer models, using pre-trained models

Lab: Apply a pre-trained model to a task

Output: Pre-trained-model notebook

Module 6 — Application capstone (4h recommended)

Theory: Packaging a text application on real data

Lab: Ship a text-classification application

Output: Deployed text application

ASSESSMENT SCHEME (100 MARKS)

Continuous lab exercises — 40 marks

Capstone project & demonstration — 40 marks

Quiz & viva voce — 20 marks

CO-PO MAPPING

CO1 !' PO3 (strength 2)

Preprocessing is solution development.

CO2 !' PO1 (strength 2)

Representations are foundational NLP knowledge applied.

CO3 !' PO3 (strength 2)

Building a classifier is solution development.

CO4 !' PO5 (strength 2)

Using pre-trained models is modern-tool usage.

CO5 !' PO5 (strength 2)

Deployment is modern-tool usage.

EVERY PARTICIPANT RECEIVES

- Certificate of completion
- Course material
- LMS access
- Interview question bank
- Mock interview & viva practice
- Optional nasscom NSQF assessment (priced per candidate on your quotation)

FEE

12,000 per student, incl. GST

Excludes the optional nasscom assessment where offered. Final pricing on your college's quotation.

DESIGNED BY

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