



# GUJARAT TECHNOLOGICAL UNIVERSITY

Minor Degree – 3 D Printing

Subject Code : 117AN01

BE Semester – 7

Subject Name : Project

**Prerequisite :** Nil

**Rationale :** To enhance employability skills of the students Project work is required. It provides practical experience in a field of additive manufacturing and help to reinforce theoretical knowledge gained in different courses to create 3 D printing parts for practical applications. The students are given exposure to explore the new developments and techniques, which can lead them to self-employment or even employment generation through extension of the work done in project.

**Teaching and Examination Scheme :**

| Teaching Scheme |   |   | Credits | Examination Marks |        |                 |        | Total Marks |
|-----------------|---|---|---------|-------------------|--------|-----------------|--------|-------------|
| L               | T | P | C       | Theory Marks      |        | Practical Marks |        | 70          |
|                 |   |   |         | ESE (E)           | PA (M) | ESE (V)         | PA (I) |             |
| 0               | 0 | 8 | 4       | 0                 | 0      | 70              | 0      |             |

**Course Contents :** This course is a project type.

The plan of conducting this course is given below :

1. Participants will be divided into teams of two/four members within first week of the starting of the course by the course coordinators/managers depending on the number of participants registered in the course. The benefits of such team-based projects are listed in the Course Outcomes below.
2. The teams will have a team coordinator or leader, which will be identified by the coordinators/managers of the course (may be the first name in the list of a student team).
3. The projects could be of the following types: Prepare 3 D printing engineering component assembly for Real life application.
4. The teams will be asked to contact their team members within a week and decide their topic with two weeks, i.e., within first 3 weeks of the starting of the course.
5. Students MUST spend about 8 hours in a week to discuss their progress together, study together or individually, select materials, solid modeling, programming etc.
6. At the end of the course duration, each team will submit no more than 15slides in .pdf file and/or not more than a video of three min to showcase their project hardware/software/plots/ 3 D printed parts/Analysis, etc. generated during the project to a cloud (say, Google Drive).
7. Evaluation: Expert evaluation (100%): Coordinators/external examiner will take a presentation of 10 mins. plus, Q&A in a common online session to give marks out of 70.



# GUJARAT TECHNOLOGICAL UNIVERSITY

Minor Degree – 3 D Printing

Subject Code : 117AN01

BE Semester – 7

Subject Name : Project

## Course Outcomes :

At the end of the course, student should be able to :

| Sr. No. | CO Statement                                                                                                                                     | Marks %<br>weightage |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| CO-1    | To Practice how to work together in a team.                                                                                                      | 10                   |
| CO-2    | To demonstrate an awareness of AM technologies and materials, their cost, advantages, and limitations.                                           | 10                   |
| CO-3    | To apply AM knowledge to identify and address the causes of issues and problems in a practical design or manufacturing setting.                  | 20                   |
| CO-4    | To prepare and analyses a part or component for production using AM techniques including file preparation and plan any required post-processing. | 30                   |
| CO-5    | Manufacture and analyze additive manufacturing product for an end application with cost effectiveness.                                           | 30                   |

\* \* \* \* \*