

GUJARAT TECHNOLOGICAL UNIVERSITY (GTU)**Competency-Focused Outcome-based Green Curriculum-2021 (COGC-2021)**

Semester - V

Course Title: Summer Internship

(Course Code: 4350305)

Diploma programme in which this course is offered	Semester in which offered
Biomedical Engineering	5 th Semester

1. RATIONALE

Idea of Embedded Internships- AICTE has made 7-10 weeks summer internships mandatory in the new curriculum which will equip the students with practical understanding and training about industry practices in a suitable industry or organization. Internships are educational and career development opportunities, providing practical experience in a field or discipline. The Summer Internship is a student centric activity that would expose the technical students to the industrial environment, which cannot be simulated in the classroom and hence creating competent professionals for the industry.

Internships are off-campus experiential learning activities designed to provide students with opportunities to make connections between the theory and practice of academic study and the practical application of that study in a professional work environment. Internships offer the opportunity to “try out” a career while gaining relevant experience and professional connections.

During the summer vacation after 4th Semester, students are ready for industrial experience. Therefore, they may choose to undergo Internship /Innovation /Entrepreneurship related activities. Students may choose either to work on innovation or entrepreneurial activities resulting in start- up or undergo internship with industry/ NGO's/ Government organizations/ Micro/ Small/ Medium enterprises to make themselves ready for the industry. In case a student wants to pursue his/her family business and don't want to undergo internship, a declaration by a parent may be submitted directly to the TPO.

- Offline internship in industry** - Student is supposed to produce joining letter for starting and relieving letter once the internship is over in case of Offline internship in any industry.
- Online internship** - Student can select from any of approved /supported / recommended by the All India Council of Technical Education for Internship (like Internshala/ NEAT/ Gujarat Knowledge Society Initiative etc.) or Approved by the state government or University approved.
- A Mini Project** - On some suitable topic related to respective branch. It can be small fabrication/ Experimental results/ simulations/ Application development / Design and / or Analysis of System(s) etc. depending on the branch of the student. Preferably a single student should carry out a mini-project.

2. COMPETENCY

The purpose of this course is to help the student to attain flavor of the following industry identified competency through summer internship experiences:

- Develop multiple types of skills such as planning, communication, collaboration, decision making / Problem solving and management skills along with selected technical knowledge.

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:

- Be aware of duty, professional responsibility and ethics of an engineer.
- Able to communicate effectively, develop professional work reports and presentations in the working environment.
- Develop awareness about general workplace behavior and build interpersonal and team skills.
- Obtain exposure and practical experience in the related field.
- Able to apply theoretical knowledge to solve industrial problems.

4. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P/2)	Examination Scheme				
L	T	P		Theory Marks		Practical Marks		Total Marks
			C	CA	ESE	CA	ESE	
0	0	0	3	0	0	50	50	100

- Offline internship in industry:** CA will be carried out based on submitted progress card by Industry resource person and ESE / Assessment will be carried out by institute resource persons.
 - Online internships:** CA will be carried out based on submitted certificate and ESE / Assessment will be carried out by institute resource persons.
 - A Mini Project:** CA and ESE will be carried out based on project work by institute resource persons.
- Legends:** L - Lecture; T - Tutorial/Teacher Guided Theory Practice; P - Practical; C - Credit, CA - Continuous Assessment; ESE - End Semester Examination.

List of Documents to be prepared for Submission:

- Detailed report duly signed and approved by the internal/external mentor.
- Presentation softcopy approved by the internal/external mentor.
- Poster of summer internship activities approved by the internal/external mentor.

Sample forms for Registration and Evaluation of Summer Internship are given below:

- Both forms are mandatory to be filled at the commencement and completion of SI respectively.
- It is recommended to file and map respective forms of Summer Internship (Semester 5) so that students get enough exposure of industry / technology. (Mapping doesn't mean same industry/ company/ project - it can be independent/ different also.)
- Mapping will ease CA and ESE Evaluations.
- A Seminar / Webinar can be arranged so that students coming from different industry / institute / project background can share experiences and learnings to their peers / all students of the same department.
- Attached formats for Registration, Completion and Evaluation are suggestive. But, adhering to these formats is anticipated.

Summer Internship Registration Form

Note: Students needs to submit this registration form after finalizing mode of internship.

Student Details

Enrollment Number													
Student Name													
Student Details	Mobile Number:												
	Email Address:												
Branch													
Code of the Institute	Name of the Institute:												
Mentor Details (Institute)	Name:												
	Designation:												
	Mobile No:												
	Email Address:												
Industry Details	Name:												
	Address:												
	Email:												
	Phone:												
	Website:												
Mentor Details (Industry)	Name:												
	Designation:												
	Mobile No:												
	Email Address												
Mode of Internship Carried Out	Online / Offline/ Mini Project												
Title of the Project/ Internship carried out													
Nature of Work Carried Out / Type of Industry													

Student Signature

Faculty Signature

Summer Internship - Suggested Letter for Completion

[Company or Institute letter head]

No:

Date

TO WHOM SO EVER IT MAY CONCERN

This is to certify that, Mr. /Mrs. _____

Enrollment No. _____ student of _____

has successfully completed Internship in the field of _____

From the date: _____ to date: _____

During the period of his / her summer internship program with us, He / She was exposed to the following different processes and was found sincere and hardworking.

- 1. _____
- 2. _____
- 3. _____
- 4. _____

Mentor Signature

Head of the Department

Stamp

Stamp

**Summer Internship-Evaluation Rubrics for Industry
Evaluation Rubrics (Industry)**

Enrollment No: _____

Branch: _____

Name of the Student: _____ Date of Evaluation: _____

Continuous Assessment – 50 Marks CA (I) (To be carried out by the Industrial mentor) Minimum Passing Marks: 25					
Parameter	Excellent	Good	Average	Not up the level of Satisfaction	Obtained Marks
Mark range	8 to 10	6 to 7	4 to 5	Below 4	
Demonstrates skills needed for assigned tasks and effective use of engineering tools and techniques. (10 Marks)					
Maintains professional manner / appearance and Manages time/resources effectively. (10 marks)					
Receiving and providing feedback during the internship period. (10 marks)					
Team work in the organization and adaptation capacity. (10 marks)					
Dedication towards assigned task. (10 marks)					
Total Marks Obtained Out of 50 CA (I)					

Signature: _____ Industrial Mentor Name: _____

**Summer Internship-Evaluation Rubrics for Institute
Evaluation Rubrics (Institute)**

Enrollment No: _____

Branch: _____

Name of the Student: _____ Date of Evaluation: _____

End Semester Examination/Institute/Internal Evaluation: 50 Marks ESE(V) (To be carried out by the Institute Mentor) Minimum Passing Marks:25					
Parameter	Excellent	Good	Average	Not up the level of Satisfaction	Obtained Marks
Mark range	8 to 10	6 to 7	4 to 5	Below 4	
Technical knowledge and awareness related to the specific discipline. (10 Marks)					
Intern attendance and punctuality during the internship period. (10 Marks)					
Skills learnt during internship. (10 Marks)					
Protocol and Processes learnt during the internship. (10 Marks)					
Report writing and Presentation Skill. (10 Marks)					
Total Marks Obtained Out of 50 ESE(V)					

Signature: _____ Institute Resource Examiner Name: _____

Common Note:

- 1) For Summer Internship / Projects / Seminar etc. Evaluation is based on work done, quality of report, performance in viva-voce, presentation etc. The internal / external assessment is based on the student's performance in viva-voce / work record respectively.
- 2) In case Industry Supervisor is not available / Institute Mentor/ Faculty can fill up both.

5. AFFECTIVE DOMAIN OUTCOMES

The following affective Domain Outcomes (ADOs) are embedded in many of the above-mentioned COs. More could be added to fulfill the development of this course competency.

- a) Work as a leader/a team member in the role of an Engineer.
- b) Practice environmentally friendly methods and processes.
- c) Follow safety precautions and ethical practices.

6. SUGGESTED STUDENT ACTIVITIES

Following are the suggested student-related curricular, **co-curricular** activities which can be undertaken to accelerate the attainment of the various outcomes in this course: Students should perform following activities and prepare reports and give presentation in front of students and faculty members. They should also collect/record physical evidences for their (student's) portfolio which may be useful for their placement interviews:

- a) Perform various tasks given by industry resources person during offline internship.
- b) Perform various tasks given during online internship.
- c) Perform various task required to complete mini project work under guidance of faculty member.
- d) Summer Internship program Interns are required to give a presentation before review committee consisting of a group of academic staff members.
- e) The review committee gives feedback and suggests possible improvements in the work.
- f) At the end of the program all the Summer Internship program Interns make a poster presentation of the work carried out. The poster presentation is open to the public. It is also evaluated by faculty members.
- g) A completion certificate will be issued to all Summer Internship program Interns only after the completion of internship tenure.

7. SOFTWARE/LEARNING WEBSITES

An internship is a short-term work program usually offered to students by companies and institutes who require staff for assistance at junior levels. Thus, for the students undergoing internship, a professional learning experience is provided to benefit them in their skills as well as career. It will brush existing skills and provide exposure to new skills. Generally, it is provided at entry level in the industry.

Here is a suggestive list for reference only.

- <http://www.gksgujarat.org/>
- <https://anubandham.gujarat.gov.in/home>
- <https://kaushalyaskilluniversity.ac.in/>
- <https://www.internshala.com>
- <https://swayam.gov.in>
- <https://nptel.ac.in/>
- <https://neat.aicte-india.org/>
- <https://www.edx.org/>
- <https://www.coursera.org/>

- <https://www.udemy.com/>
- <https://www.letsintern.com>
- <https://www.internship.com>

8. PO-COMPETENCY-CO MAPPING

Semester V	Summer Internship (Course Code: 4350305)						
	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
CO1) Be aware of duty, professional responsibility and ethics of an engineer.	2	1	1	1	1	1	1
CO2) Able to communicate effectively, develop professional work reports and presentations in the working environment.	2	1	1	1	1	1	1
CO3) Develop awareness about general workplace behavior and build interpersonal and team skills.	2	1	2	2	1	1	1
CO4) Obtain exposure and practical experience in the related field.	1	1	2	1	1	1	1
CO5) Able to apply theoretical knowledge to solve industrial problems.	2	1	1	1	1	1	1

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

9. COURSE CURRICULUM DEVELOPMENT COMMITTEE GTU Resource Persons

Sr. No.	Name and Designation	Institute	Contact No.	Email
1	Mr. Bhavin C. Changela, Lecturer, Biomedical Department	AVPTI Rajkot	9429502377	bhavinchangela123@gmail.com
2	Ms. Maitri H. Dave, Lecturer, Biomedical Department	GP Gandhinagar	9099757202	maitrihdave@gmail.com