HYDERABAD INSTITUTE OF TECHNOLOGY AND MANAGEMENT

DEPARTMENT OF MECHANICAL ENGINEERING

SOP for SSDC - MECH

Objectives At Students Skill Development Center (SSDC) we nurture the students to achieve the following objectives,

1. To create skillful and experienced mechanical engineers in community services.
2. The students are put through international certification exam online by developers at the end of each software modules.
3. To make the students as a practicing engineer in fields such as design, research, development, testing, manufacturing, operations and service systems.
4. To make students Leadership and responsibility within an organization and progress through certificate programs in engineering.
5. Encourage faculty to undergo training in latest designs with technology, impart training to the students, and conduct national level design challenge competition, workshops.

Responsibility:

1. SSDC center in charge
2. Faculty members associated with SSDC
3. Heads of the respective departments
4. Principal of the instructions

Procedure:

S/no	Activities	Responsibilities	Target dates/days
1	Prepare the proposal for conducting activities under SSDC and take the approval from management.	Center in charge and faculty	Month of June
2	Identify shortage in hardware, budget proposal, procurement.	Center in charge and faculty	Month of June
3	Conduct the exam and shortlisted the students for SSDC.	Center in charge and faculty	Month of July
4	Train the students in mechanical software like Auto Cad, Inventor, Creo, Fusion360, FEA and Revit MEP.	Center in charge and faculty	3 Periods per week from July to April
5	Conduct workshop with industrial expert respective completed course.	Center in charge and faculty	End of each course
6	Execute the industrial projects	Center in charge and faculty	End of each course and workshop
7	Conduct the exam for international level certified user and professional from developer.	Center in charge and faculty	End of each course and project
8	Prepare the report of total activity	Center in charge and faculty	End of the cycle

List of Courses

Department : MECHANICAL

Faculty I/C : SINGAIAH.G

Date Of Establish : 10-10-2017

Courses Offered : Autodesk Inventor Professional, PTC Creo & Solid works

Phase	Year -Semester	Description
1	II-I	Solid modelling
2	II-II	2d-drafting(AutoCAD)
3	III-I	Other software/3d- 2d drawing as per industry requirements
4	III-II	Mechanism simulation
5	IV-I	CAM/FEM
6	IV-II	Complete industrial project.

Conduction procedure: Its complete hands-on session on industrial drawings. Faculty will monitor and guide the project like facilitator, its completely interactive training classes where students work in group to complete given task and execute the industrial executed drawings as well as complete the projects as per problem statements.

SSDC Course Outcome

1. Able to apply CAD in real life applications and handle design problems in a systematic manner.
2. To get hands on experience in Manufacturing, Design, Testing and Quality Control.
3. To develop the CNC codes and analysis of various aspects in of manufacturing design.
4. Able to develop a new product like material, and shape optimization in research.

Co-PO mapping

CO/PO	1	2	3	4	5	6	7	8	9	10	11	12
1. Able to apply CAD in real life applications and handle design problems in a systematic manner	3	3	3	3	2	3	3	3	3		3	2
2. To get hands on experience in Manufacturing, Design, Testing and Quality Control.	3	3	3	3	3	3	3	3	3		3	2
3. To develop the CNC codes and analysis of various aspects in of manufacturing design	3	3	3	3	3	3	3	3	3		3	2
4. Able to develop a new product like material, and shape optimization in research	3	3	3	3	3	3	3	3	3	3	3	3

COURSE CONTENT AND DELIVERY PLAN (3 Periods per Week)

CONTENT FOR AUTODESK INVENTOR	
S.NO	DESCRIPTION
1	Getting started
2	Creating parts
3	Creating and editing parts
4	Freeform parts & creating part documents.
5	Annotating part document
6	Assembling introduction
7	Assembly creation.
8	Assembly components
9	Assembly relations
10	View appearance
11	Assembly management
12	Presentation
13	Assembling drawing
14	Multibody components, weldments
15	Advanced sketching and constraining technics
16	Advanced sketching and constraining technics
17	Frame generator
18	Frame generator
19	Advanced Part Modelling Techniques
20	Sheet metal
21	Documentation sheet metal & plastic part design
22	Sketch blocks , drawing file creation and settings
23	Document Settings and Application Options
24	Content Centre and using I features
25	Importing and exporting files , surfaces
26	Using design accelerations & I logic basics
27	Selection filters & Interoperability

CONTENT FOR PTC CREO	
S.NO	DESCRIPTION
1	Introduction
2	Sketch
3	Sculpting
4	Modeling
5	Manage and collaborate
6	Assemblies
7	Rendering
8	Drawings
CONTENT FOR SOLID WORK	
S.NO	DESCRIPTION
1	SolidWorks Graphical User Interface
2	Sketch Entities
3	Sketch Tools- Blocks-Relations- Dimensioning
4	Part Modeling Tools-Creating Extrude features- Creating Revolve features- Creating Swept features
5	Creating Loft features, Creating Reference
6	Creating curves, Creating Fillet features, Inserting Hole types
7	Advanced Modeling Tools
8	Introduction to Assembly Modeling & Approaches
9	Sheet Metal Design
10	Weldment Design
11	Simulation

LIST OF PROJECTS

S.no	Name of the project
1	Design and analysis of connecting rod
2	Design and analysis of mounting bracket
3	10 projects on industrial executed drawing
4	Generation of electricity using piezo electric sensors
5	Design and fabrication of welding fixture
6	Sensitization and health monitoring of differential
7	Smart chain drive
8	Bridge construction machine
9	Experiment stress analysis on ss beam
10	Recycling/reuse of automobile vechile car/bike
11	Airless tyres

Impact on student's outcome:

1. Expertize in CAD Technologies.
2. Getting hands-on experience in Manufacturing, Design, Testing and Quality Control.
3. All students got certified professional from Developer.
4. Executed industrial design.
5. Got hands on experience in Manufacturing, Design, Testing and Quality Control.
6. Developed CNC codes for complicated shapes of various aspects in of manufacturing design.
7. Got placement in leading MNC companies.

PROOFS:


In Association with CANTERCAD
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