Course title: Major Project/ Internship			
Course code: DSE 104	**No. of credits:** 20	**L-T-P:** 0-0-600	**Learning hours:** 600
Pre-requisite course code and title (if any): NA			
Department: Sustainable Engineering			
Course Coordinator: Prof. Naqui Anwer		**Course Instructor:**	
Contact details: naqui.anwer@terisas.ac.in			
Course type: Core		**Course offered in:** Semester 4	

Course description

The course offers a research driven learning approach, guided by realistic and challenging industry problems. The course includes 15-20 weeks of on-the-job training on concurrent industry-relevant problems through supervised self-learning approach. Based on need for contemporary areas of power sector, RE industry, green energy projects, energy efficiency, energy audit & management and policy & regulations; the students shall work on specific thematic areas for development of design specification of a system, analysis of data, assessing market potential of technologies and solutions or similar tasks assigned by the host organizations. The students shall implement their classroom learnings and specialization, test hypothesis through literature review, experiment or field survey to analyze and report the results/findings.

Course objective

- To train students to use analytical skills and knowledge for addressing problems/challenges in contemporary areas of power sector, RE industry, green energy projects, energy efficiency, energy audit & management and policy & regulations
- To impart skills and training relevant to the specific fields as mentioned above.
- To enable the students to execute independent research work depending on the problem and demonstrate the findings thoroughly

Evaluation criteria

- Timeline adherence (10%) [Consisting of: joining report (1%), synopsis and topic (1%), progress report (0.5% each), feedback form (1%), final dissertation (5%)] [during Module 1-3]
- Test 1: Dissertation (40%) [after Module 3]
- Test 2: Presentation and viva (30%) [after Module 3]
- Feedback from the Host Organization/Supervisor (20%) [after Module 3]

- Plagiarism is unacceptable and the institute has a very strict policy to deal with it. If a student engages in plagiarism, it could attract serious penal actions. All reported cases of plagiarism would be dealt as per the process mandated by Departmental Academic Integrity Panel (DAIP) and Institutional Academic Integrity Panel (IAIP).

• The students scoring less than or equal to 40% (or ≤ 40%) overall marks in the evaluation would be considered to have failed in this course. Grading of the Major Project will be absolute in nature and would be done as per the following criteria:

>90	A+
>80≤90	A
>70≤80	B+
>60≤70	B
>50≤60	C+
>45≤50	C
>40≤45	D
≤40	F

Learning outcomes

- Develop an understanding of problems/challenges in contemporary areas of power sector, RE industry, green energy projects, energy efficiency, energy audit & management and policy & regulations [Test 1,2]
- Gain requisite skills through on-job training on various aspects such as system design, modeling, scenario analysis, data analysis, experimental research, field survey etc. [Test 1,2]
- Develop ability to innovate for novel product/process development or to mitigate challenges in the fields/areas mentioned above. [Test 1,2]

▪ Effectively communicate and demonstrate the learning through structured thesis/dissertation and oral presentation [Test 1,2]
Pedagogical approach Self-learning; discussion with the supervisors; interaction with experts; field work; laboratory work, etc.
Materials Peer-reviewed journal articles Reputed conference proceedings Reports related to the specific project Learning materials provided by the host organization
Additional information (if any) A detailed guideline along with important dates and format will be notified by the department, in advance, with other relevant details.
If there is any change in evaluation criteria/policy, it will be updated in the guideline every year. Dissertation submission and schedule of presentation will be coordinated by Project/Programme coordinators.
Student responsibilities Attendance; Discipline; Research Ethics etc.
Course Outline prepared by Prof. Naqui Anwer
External reviewers 1. Dr. Anish Modi, Assistant Professor, IIT Bombay 2. Mr. Mudit Jain, Head (Research), Tata Cleantech Capital Limited 3. Mr. Alok Kumar Jindal, GM (RE), Tractebel Engineering Pvt. Ltd.