Course title: Independent Study				
Course code: ENR 105	**No. of credits: 3**	**L-T-P: 0-3-84**		**Learning hours: 87**
Pre-requisite course code and title (if any): Students having a CGPA of 7.5 and above are eligible to register for this course.				
Department: Department of Energy and Environment				
Course coordinator: Dr. Naqui Anwer		**Course Instructor:**		
Contact: naqui.anwer@terisas.ac.in				
Course type: Elective		**Course offered in:** Semester 3		

Course description

The independent study is a 3-credit course offered to the students registered for the MTech in Renewable Energy Engineering and Management (REEM). The student will conduct a study independently under the supervision of a faculty member. The supervisor can be any faculty member from TERI School of Advanced Studies. Students interested in registering for the course should get consent from the supervisor before they register for the course. The course will be conducted through submission and presentation of synopsis by August 2nd week, mid-term presentation by October 4th week and final report submission and presentation by November 4th week.

Course objective

- To enable students carry out research studies independently under supervised self-learning approach
- To help students obtain advanced understanding on specific system/process/scenarios in renewable energy, energy systems, policy & regulation and allied areas

Course contents

Module	Topic	L	T	P
1	Preparation of a synopsis document and a presentation having the following: • Title of the study • Rationale for the study and Research objectives (Maximum 3) • Literature review • Methodology • Expected Outcome • Timeline • References	0	0	18
2	Work focused on the approved synopsis leading to mid-term presentation of work comprising of the progress made and understanding developed by the student on the specific topic.	0	0	44
3	Completion of remaining work and preparation of Independent Studyreport containing the following and final presentation: • Abstract • Introduction • Study Area • Aim and Objectives • Methodology • Results and Discussions • Conclusions and Limitations • Future Scope of Work • References Discussion and presentation of research work before the faculty panel	0	3	22
	Total	**0**	**3**	**84**

Evaluation criteria

Test 1: Synopsis document and presentation:	20%	(August 2nd week)
Test 2: Mid-term presentation:	20%	(October 4th week)
Test 3: Final evaluation		(November 4th week)
Presentation:	30%	
Report:	30%	

- Synopsis will be evaluated by the supervisor and two faculty members.
- Mid-term test will be evaluated by the supervisor and two faculty members.
- Presentation made to supervisor and 2 additional faculty members
  Report submission at the end of the term evaluated by supervisor and a faculty member

Learning outcomes

After completing the course, the students will be able to:
- Provide comprehensive knowledge about the topics of the study (Test 1)
- Design and implement the concepts related to the study (Test 2 and 3)
- Test the systems (if any) in with wholistic approach (Test 2 and 3)

Pedagogical approach

Self-learning; interaction with supervisor; literature review; interaction with experts

Materials

Peer-reviewed journal articles
Reputed conference proceedings
Reports related to the specific
project
Learning materials provided by supervisor

Additional information (if any)

- The final report should be around 40 pages
- A guideline along with important dates and format will be notified by the
  supervisor orcourse coordinator.
- Student needs to check plagiarism using software (e.g. Turnitin) and submit the report to
  supervisor before final submission

Student responsibilities

Attendance; Discipline; Research Ethics, etc.
Regular discussion with supervisor and adhering to the timeline

Course Reviewers

1. Dr. Milap Punia, Associate Professor, Jawaharlal Nehru University, New Delhi
2. Dr. P.P. Pani, Assistant Professor, Jawaharlal Nehru University, New Delhi
3. Dr. R.D. Garg, Associate Professor, Indian Institute of Technology, Roorkee
4. Dr. T.P. Singh, Assistant Professor, Symbiosis Institute of Geoinformatics, Pune