Course title: Major Project			
Course code: BBP108	**No. of credits: 16**	**L-T-P:** 0-0-512	**Learning hours:** 512

Pre-requisite course code and title (if any):

Department: Department of Biotechnology

Course coordinator(s): Prof. Ramakrishnan Sitaraman	**Course instructor(s):**

Contact details:

Course type: Core	**Course offered in:** Semester 4

Course description:

The major project is a core credit course, for the students of the M.Sc. Biotechnology during the 4th semester. This is to widen the students' research perspective by providing them exposure to scientific research ideas in a real-life situation. At the end of the major project, the student is expected to submit a dissertation and make a presentation in front of a committee for evaluation.

The suggested learning hours is minimum expected time to be spent by the student for self-learning, interaction with experts training at the organization, dissertation writing etc. over a duration of 16 weeks.

Course objectives:

1. To provide the students an opportunity to work on basic and applied live research and development and policy related projects
2. To allow students to apply appropriate technical skill sets learnt during prior course work
3. To promote creativity and innovativeness for solving real-life problems
4. Create capacities to address research questions using multi-disciplinary approach.

Course content

Module	Topic	L	T	P
1.	The student carries out the major project dissertation/thesis either in an organization/institution/industry or internally within TERI SAS. The student works on a research idea of his/her interest relevant to the Program.	0	0	512

Evaluation criteria:

An evaluation committee will be formed to assess the major project. The distribution of marks for the evaluation would be as per the following criteria (weights of each is indicated in parenthesis)
  a. Timeline adherence (10 marks) (consisting of: joining report (1), progress reports (4) and submission of dissertation (1).
  b. All the reports including joining, progress, feedback etc. should be uploaded on the student portal account.

    c. External supervisor's feedback from the Host Organization/Supervisor (20 marks)

    d. Dissertation (40 marks)

    e. Presentation and viva (30 marks)

(The presentation will be evaluated based on the content, delivery (structure and flow), research component and timing of the presentation)

    f. The students scoring less than or equal to 50% (or ≤ 50%) overall marks in the evaluation would be considered fail.

    g. If the student fails to appear for the Major Project presentation on the presentation date assigned by the TERI SAS then the candidate will be assigned zero marks for the presentation and will be graded accordingly.

    h. If plagiarism is detected through the use of Turnitin software, it will be referred to the MPEC, which would take a decision and penalty to be imposed/ disciplinary action to be taken. **The MPEC may refer to the following guidelines:**

Percentage of similarity	% marks deducted from Dissertation
> 20	Thesis rejected; the student is asked to resubmit
> 10≤20	10
≤ 10	No deduction, thesis accepted

    i. Grading of the Major Project would be done as per the following criteria:

>90	A+
>85≤90	A
>80≤85	B+
>70≤80	B
>60≤70	C+
>55≤60	C
>50≤55	D
≤50	F

Late submission

    (a) <u>Joining report</u>: No monthly progress report will be accepted until the completely filled joining report has been submitted.

    (b) <u>Monthly progress report</u>: The reports have to be submitted as per the dates mentioned on portal.

    (c) Submission of <u>draft dissertation</u> for evaluation: The softcopy for evaluation has to be submitted on or before the due date informed through portal or through email. <u>Dissertations</u> that are submitted after the due date won't be considered for evaluation and "0" marks would be awarded for the same. Further, the regulations of the TERI School of Advanced Studies apply as laid down in the student handbook (available at the TERI School of Advanced Studies web page (https://www.terisas.ac.in/pdf/student-handbook.pdf)

    (d) <u>Final Dissertation</u>: The major project is completed after the Final <u>Dissertation</u> is submitted. Incomplete projects will lead to non-release of the final degree.

Learning outcomes:

1. Students will be able to-

- define a research problem

- design appropriate experiments

- undertake data collection and analysis

- draw logical inferences -report outcomes in a systematic manner

- innovate solutions to societal problems

2. Students will be able to work independently as well as part of a team

3. Students will be able to make effective presentations before a diverse audience

4. Students will acquire transferable problem-solving skills using multi-disciplinary approaches

Pedagogical Approach: Regular discussions and mentoring with internal supervisors.

Course Reading Materials:

Peer reviewed scientific journals and books relevant to the topic of research idea

Additional Information:

Operational aspects of Major Project are governed and guided by "Generic guideline Major Project TERI SAS" and also provided to students.

Employability:

1. Research and Development (academic and industrial sectors)

2. Bio-business companies, breweries, seed industries, pharmaceutical companies, dairies, food

processing.

3. Agro-Industries

4. Forensics

5. Diagnostic centres

6. Regulatory and funding agencies, law firms and knowledge processing offices (KPOs) for Intellectual Property (IP) management.

7. Teaching and training (Academic Institutions, Industries, KPOs and NGOs).

Student responsibilities:

Following the issued instructions and guidelines of the minor project in entirety.

Regular updating the progress of work to the mentor/supervisor.

Timely submission of all required documents through portal.

Course Reviewers:

The course was reviewed by BoS members (December 2022)