

Concept Note

Pre-major Credit Structure at IISER Berhampur (BSMS Programme)

1. Introduction

The 5-year BSMS (Bachelor of Science - Master of Science) Integrated Programme at IISER Berhampur is designed to provide a rigorous foundation in science while incorporating flexibility for interdisciplinary learning, and the choice of choosing three pre-majors to minimize the burden and focus on chosen pre-majors. This document outlines the credit structure, curriculum phases, and academic policies governing the programme.

2. Programme Structure

The BSMS programme is divided into four phases, each with distinct academic objectives.

Phase 1: Foundation Year (Semesters I–II)

- Objective: Build a strong foundation in core sciences and humanities.
- Courses:
 - Core Sciences: Biology, Chemistry, Physics, Mathematics, Earth & Environmental Sciences.
 - Humanities & Social Sciences (HSS) / Computer Science.
- Credits: A total of 39 credits will be offered during the foundation year (19+20).

Phase 2: Pre-Major Year (Semesters III–IV)

- Objective: Exposure to three pre-major disciplines for informed specialization.
- Structure: A student must choose three pre-major subjects from the five major subjects (Biology, Chemistry, Physics, Mathematics, Earth & Environmental Sciences).
- Credits:
 - 23 credits per semester will be offered (7 credits (6 theory + 1 practical) in each stream of three pre-majors+2 credits in HSS/CDS).
 - Departments may adjust credit distribution for subjects without practicals.

Phase 3: Major Years (Semesters V–VIII)

- Objective: Specialization in a chosen major with electives and optional minors.
- A student must choose one of the five major subjects (Biology, Chemistry, Physics, Mathematics, Earth & Environmental Sciences) to get a major degree.

- Credits:
 - A student has to register for a minimum of 18 credits (compulsory + elective(s)) and upto a maximum of 21 credits (overload courses are permitted as per institutional rules).
- Each Department must offer at least one open elective (3 credits) per semester, and among the minimum 18 credits, every student must choose one open elective from any department (including his/her own major department).
- The departments can distribute the remaining 15 credits as per their requirements.

Phase 4: Dissertation Phase (Semesters IX–X)

- Objective: Independent research with flexibility for external learning.
- Credits: 36 credits for Dissertation Phase (18 credits per semester).

3. Credit System

A Semester consists of 14 weeks and should accommodate at least 42 contact hours for theory and laboratory courses.

Each course will be assigned some credits based on the contact hours per week.

A. Theory Courses

- 1 credit = 1 contact hour per week.
For theory courses one credit indicates an instruction of 1 contact-hour per working week (14 contact-hours per semester).

B. Tutorial:

- 1 credit = 1 contact hour/week.
For Tutorial one credit indicates an effort of 1 contact-hour per working week (14 contact-hours per semester).

C. Practical Courses

- 1st/2nd-year labs: 1 credit = 3 contact hours/week (e.g., 3-hour weekly sessions).
- 3rd/4th-year labs: one Full-day session (At least 8 contact hours) /week = 3 credits.

L-T-P-C Notation L-T-P => Lecture – Tutorial – Practicals – Credits Credit structure of each course is given in L-T-P form (e.g. 2–1–0). The numbers corresponding to L, T and P denote the contact hours per week for Lecture, Tutorial and Practical respectively.