



Welcome to

School of Life Sciences

Jawaharlal Nehru University

Contact:

Dean

School of Life Sciences

Jawaharlal Nehru University

New Delhi -110067

Tel: 011-26742916, 26704530, 26704558, 26704559

Fax: 011-26742558

Email: dean_sls@mail.jnu.ac.in, dean_sls@yahoo.com

Orientation and Guidelines for students joining SLS

Below are given the course structure, system of evaluation, committees etc. for the newly admitted students of SLS.

A. COURSE STRUCTURE

i. M. Sc.

Students are assessed and evaluated throughout the semester by a continuous system of tests, seminars, assignments, mid and end-semester examinations. The School follows the University-wide format of grading on a 10 point scale worked out on the basis of possible 9 point scale, and all Semester Grade Point Average are computed as Cumulative Grade Point Average (CGPA) at the end of four semesters.

A student pursuing a course in **M.Sc. Life Sciences** has to complete a minimum of 64 credits and has to take both core courses and optional courses spread over four semesters, and practical courses in the first two semesters. During the final two semesters, students also have to carry out a research project on a specific topic under the supervision of a faculty member in a laboratory and submit a dissertation for evaluation by a committee of experts followed by open oral presentation defending the project. Students also have to present a seminar and submit a term paper on a current topic in life sciences.

One credit comprises a minimum of 16 lectures, of one hour duration each.

MSc course

M.Sc. Semester-I (Total Credits: 16)

Compulsory Courses	Title	Credits
LS 401	Biochemistry-I	2
LS 402	Cell Biology	3
LS 403	Genetics	3
LS 404	Microbiology	2
LS 405	Chemistry of Macromolecules	2
LS 406	Life Sciences Practicals-I	4

Remedial Courses

For the students with Biological Sciences Background:

LS 101	Physics for Biologists	2
LS 102	Mathematics for Biologists	2

For the students with Physical Sciences Background

LS 103	Plant Biology	2
LS 104	Animal Biology	2

M.Sc. Semester-II (Total Credits: 17)

Compulsory Courses		Credits
LS 451	Biochemistry-II	2
LS 452	Molecular Biology	3
LS 453	Plant Physiology	3
LS 454	Animal Physiology	3
LS 455	Biophysics and Structural Biology	2
LS 456	Life Sciences Practicals-II	4

M.Sc. Semester-III (Total credits: 16)

Compulsory Courses		Credits
LS 475	Immunology	2
LS 476	Animal Developmental Biology	2
LS 477	Plant Developmental Biology	2
LS 478	Computational Biology & Bioinformatics	2
LS 479	Biostatistics	2

Optional Courses (Any Three)

LS 501	Molecular Genetics and Genetic Engg.	2
LS 503	Radiation Biology	2
LS 504	Virology	2
LS 505	Advanced Microbial Physiology	2
LS 506	Human Genetics	2
LS 507	Neurophysiology	2
LS 508	Biodiversity and Evolution	2
ES 105	Ecology	2

(All optional courses may not be offered at any given time)

M.Sc Semester-IV (Total credits: 15)

Compulsory Courses

LS 491	Dissertation	8
LS 492	Seminar	1

Optional Courses (Any three)

LS 562	Biophysical Chemistry: Methods & Applications	2
LS 563	Molecular Parasitology	2
LS 564	Molecular Cancer Biology	2
LS 566	Membrane Biology	2
LS 567	Eukaryotic Gene Expression	2
LS 568	Plant Biotechnology	2
LS 569	Neural and Behavioral Biology	2
LS 572	Redox Biology	2
LS 573	Fungal Biology and Biotechnology	2

(All optional courses may not be offered at any given time.)

ii. MPhil/PhD

Students are assessed and evaluated throughout the semester by a continuous system of tests, seminars, assignments, mid and end-semester examinations. The School follows the University-wide format of grading on a 10 point scale worked out on the basis of possible 9 points.

A student registered for an **M. Phil./Ph. D. program in Life Sciences** has to take pre-Ph. D. courses for the initial two semesters. For subsequent registration to the Ph. D. program, the student has to secure a minimum CGPA of 6.5 (for SC/ST and physically challenged students, the minimum CGPA requirement is 6.0) in those courses. At the end of two initial semesters, the student, in consultation with the supervisor, has to submit a synopsis of the research proposal and defend it in an open seminar before the assigned Doctoral Committee. Based on the above criteria, the Special Committee of the School approves the enrollment of the student to the Ph. D. program. After sufficient amount of the research work is carried out by the student and with due approval by the supervisor, the student can submit the Ph.D. thesis. Although Ph.D. thesis can be submitted upon completion of at least 2 years of research work, normally it is between 2 to 4 years from the date of confirmation to the Ph.D. program. Under special situations, a student may apply, for consideration by the Special Committee, for an extension of one more year (5th year) to submit the Ph.D. thesis,

provided the research work has been examined and recommended by an expert committee including the supervisor for this purpose. In case a student opts for an M.Phil. degree or obtains a CGPA between 6.5 and 6.0 for candidates belonging to the general category and 6.0 to 5.5 for the candidates belonging to the SC/ST/PH category, the student has to carry out research work under the guidance of a designated supervisor for two semesters and submit an M. Phil. dissertation. The M. Phil./Ph. D. degrees are awarded on the basis of evaluation and recommendation of the thesis by one/two external examiners respectively from within the country followed by successful oral defense of the research work by the candidate.

Under the clause 9(a) of the Ordinance relating to the award of degree of Doctor of Philosophy, no candidate is permitted to submit his/her thesis for Ph.D. degree unless he/she has pursued a course of research at the University for not less than two years after his/her admission has been confirmed. However, with respect to candidates who had discontinued after obtaining their M. Phil. and who are readmitted by the School, the period for which such candidates had discontinued shall not be counted while calculating the period of six years as above. Under the clause 9(b), the Committee for Advanced Studies and Research on the recommendation of the School may however, subsequently accept the request of candidate whose name has been removed from the rolls of the University under sub clause (a) above to get re-enrolled and become eligible for submission of his/her thesis, provided that he/she submits his/her thesis within one year from the date of his/her enrolment.

All PhD students are to present their work in the Department minimum 6 months before the actual submission of the thesis as per UGC guidelines. Also, minimum one publication in a peer reviewed indexed journal is a prerequisite for the submission of Ph. D. thesis.

One credit comprises a minimum of 16 lectures, of one hour duration each.

M. Phil./Ph. D. course

Semester-I (Total credits: 14)

Compulsory Courses:

Course No.	Title	Credits
LS 601	Fundamentals of Modern Life Sciences	3
LS 602	Theoretical Foundation for Experiments	2

Optional courses (Any three)

LS 626	Molecular Biophysics	3
LS 627	Current Concepts in Immunology	3
LS 628	Applied Microbiology	3
LS 630	Topics in Neurosciences	3
LS 632	Topics in Radiation and Cancer Biology	3
LS 634	Cell Signaling	3
LS 635	Physiology and Mol. Biology of Stress	3
LS 636	Plant Pathogen Interaction	3
LS	Crop Plants Evolution	3

Semester-II

Course No.	Title	Credits
LS 651	Seminar	1
LS 652	Term Paper/ Review Article	1

Course Content:

Students are advised to follow the time table and contact the course co-ordinator /participating faculties for the syllabus. Syllabus is also available in the website.

B. EXAMINATIONS

Every course normally has the following set of examination during each semester:

	Total marks	Time duration	Remarks
Quiz 1	15	Maximum 1 hour	Can be surprise test/ assignments/ seminars
Mid Term	35	Three hours	
Quiz II	15	Maximum 1 hour	Can be surprise test/ assignments/ seminars
End Term	35	Three hours	
Total marks	100		

Please be reminded that it is a **continuous relative assessment** semester based system and therefore missing any class or examination is strongly discouraged. The University does not have any provision for formal attendance but teachers can take attendance for mutual benefit and smooth running of course. It is not reflected in any way in the mark sheet.

However, in case of extreme unavoidable situation, the absence from the examination can be given due consideration for re-examination by the school as suggested below:

For Mid-term examination or quiz, student may be allowed to reappear in the examination, provided there has been some emergency situation such as illness and the student is able to submit a proper medical certificate from JNU health center or a recognized Medical officer. The dates of re-examination may be decided based on mutual consent of the student and the teacher, with due intimation to the Dean of the school. Students who fail to appear for the practical examinations will have to take the examinations next academic year along with the students of the next batch.

For the End semester examination, a student may be allowed to reappear in the examination upon submission of a proper medical certificate (as above) only during the next academic year along with the students of the next batch.

C. COURSE EVALUATION BY STUDENTS

School encourages that at the end of each semester, the students anonymously evaluate each course. For this, a questionnaire will be provided, seeking student's objective opinion on the subject/teaching of the course. This is purely an exercise of feedback, done for improving the course/teaching. The questionnaire would be collected and given to the respective graduate advisory committee (GAC) for necessary discussions.

The students are encouraged to attend the meetings with their respective GACs for further discussions.

In case any student has specific problems which need immediate/direct addressal can contact any member of their GAC directly.

D. GRADUATE ADVISORY COMMITTEE

i. M. Sc.

There is a Graduate advisory committee (GAC) of the School which meets the students' minimum once every semester to monitor their progress and address their problems related to academics. If required the students/faculties can call for more meetings of the GAC.

The GAC interacts with the students and allot supervisor for their project work to be carried during the third and fourth semesters.

The GAC is required to address the difficulties faced by students during the course and if necessary can present the matter to the staff council.

ii. M. Phil./Ph. D.

There is a Graduate advisory committee (GAC) of the School which meets the students' minimum once every semester to monitor their progress and address their problems related to academics. If required the students/faculties can call for more meetings of the GAC.

The GAC also help in the allotment of supervisors (as described below) to new students. It also addresses the difficulties faced by the students during the course and during their tenure of research.

E. M. Phil./Ph. D. SUPERVISOR ALLOTMENT

Following registration, students would be offered a list of available positions/vacancies available with individual faculties in various research groups of the School. To orient new students to the ongoing research, the SLS faculty members would highlight their research in a colloquium upon completion of the admission process (around August 17th-20th of every year).

Thereafter, students are required to interact with the faculty members to discuss and decide on joining a laboratory. Mutual consent would be required for the final choice of the laboratory. Each candidate would then be issued an allotment form by the GAC. The allotment forms, duly signed, are to be submitted by the faculty members (having signatures of both the student and the concerned faculty) by 31st August of each year to the GAC. The GAC would formally designate a supervisor to each student and the list would be displayed by September first week of each year. In addition, the GAC in consultation with the faculty member would allot each student a doctoral committee.

- a) It is expected that by following the criteria / procedure given above, every student would get a supervisor with mutual consent. However, in case any student could not find any supervisor, GAC would allot a supervisor to him/her from the vacancies existing for that academic year. After all the available vacancies have been filled, only then request for extra student (if they still remain) would be considered. It is not expected that any student would continue without being formally allotted a supervisor beyond September.
- b) A change of supervisor is highly discouraged in SLS. Before joining a lab, students should ensure the areas of research, and the lab of their choice is in synchrony with his/her interest. It needs to be emphasized that once the lab allotment is done there is no scope for change of lab. However, in extraordinary situation, upon receiving of proposal letter from the student and supervisor, the concerned doctoral committee after reviewing the research progress of the student for at least two years may suggest a change of lab. In such cases, the student has to submit a fresh synopsis, get it approved by the concerned doctoral committee and two years residency would re-start from the date of change of lab/supervisor.

Every student has to fill up a folio by opting for courses one would like to take for their course work. It is mandatory for students to submit their folios to the SLS office as early as possible and latest before the start of mid-term examinations to continue in SLS, failing which the admission may stand cancelled. For students from the “direct Ph.D.” category, the above mentioned procedure must be completed within a period of one month of their joining the School

F. ASSIGNMENT TO A DOCTORAL COMMITTEE

Students must follow the directives of the assigned doctoral committee. All academic related programmes/presentations are through the doctoral committee. Every student must make one presentation of their research progress before the doctoral committee once every year (that is, once every two semesters). The doctoral committee meets twice every semester.

Every student who joins the M. Phil./Ph. D. program is assigned to one of the following doctoral Committee by their concerned supervisor and GAC:

- 1) Cell Biology, Immunology and Developmental Biology.
- 2) Genetic, Genomics, Gene Regulation and RNA Biology.
- 3) Molecular Biology and Biochemistry of Pathogens and Diseases.
- 4) Neurobiology and Behavioral Biology.
- 5) Plant Molecular Biology, Biotechnology, and Photobiology.
- 6) Radiation and Cancer Biology.
- 7) Biophysical Chemistry, Molecular Biophysics, and Structural Biology.

G. STUDENT-FACULTY COMMITTEE

There is a Student-Faculty Committee at the school level consisting of not more than five teachers and five students. As per statute of the University, it is open to the school to have all the five students elected or have four students elected and one student of the school with the best academic record.

The SFC meets once / twice every semester to discuss matters pertaining to the academic work of the school except those mentioned below would fall within the purview of these Committees:

- (i) Faculty positions, recruitment, conditions of service and academic freedom, and
- (ii) Actual processes of evaluating academic performance and merit of students.

The committee may also discuss matters of general relevance in a special meeting of all concerned students and faculty members of the Centre.

H. REDRESSAL MECHANISM FOR GRIEVANCES OF STUDENTS OTHER THAN THOSE PERTAINING TO HOSTELS AND EVALUATION

There exists a **School Level Student's grievance redressal committee** to resolve any issues (other than those pertaining to Hostels and Evaluation) within the mechanism of the school. However, there is also a **University Level Grievance Redressal Committee** for the redressal

of grievances of Students (other than those pertaining to Hostels and Evaluation), which can be approached if the complainant is not satisfied with the decision at the school level.

I. AWARDS, SCHOLARSHIP and TRAVEL GRANT

To recognize academic excellence the following awards have been instituted:

M. Sc.

Prof Gauri Shankar Singhal Merit Scholarship Award

Mrs Kailash Hans Bhalla Memorial Award

Prof Ramesha Rao Scholarship

Merit cum Means fellowships

M. Phil.

UGC Non-NET Fellowship

Prof Ramesha Rao Travel Grant

Smt Jaswant Kaur Khurana Merit Award

Corpus Funds for partial support for attending scientific meetings

J. OTHER SCHOOL ACTIVITIES

Biosparks, Spandan, Meet the Speakers, Summer Research Programme, Winter School, Lectures by eminent scholars etc.