



**JSS Academy of Higher Education and Research
(Mauritius)**

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Foundation Programme in Life Sciences (FPLS)

**Programme Handbook and
Module Information Sheet**

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Foundation Programme in Faculty of Life Sciences

Content

	Details	Page No.
Part I Programme Handbook	A. Programme Information	1
	B. Programme Aim	2
	C. Programme Objectives	3
	D. General Entry Requirements	4
	E. Programme Mode and Duration	4
	F. Attendance Requirements	5
	G. Student Progress and Assessment	5
	H. Programme Structure	9

Part I

PROGRAMME HANDBOOK

A. Programme Information

The Foundation Programme in Life Sciences (FPLS) is a dynamic one-year introductory programme designed to prepare students for further studies and careers in the rapidly evolving fields of life sciences such as biotechnology and environmental science. This programme is ideal for individuals who are passionate about understanding living systems, advancing scientific innovation, and addressing global challenges such as health, sustainability, and environmental conservation.

The programme offers a broad introduction to life sciences and explores the roles that scientists and professionals play in healthcare, research, industry, and environmental management. Students are introduced to key scientific concepts, contemporary issues, and the foundational knowledge required for progression into specialized degree programmes.

A strong emphasis is placed on developing essential academic and professional skills, including critical thinking, scientific research, problem-solving, data interpretation, teamwork, and effective communication. Through interactive learning activities, students are encouraged to think like future scientists and innovators, while also reflecting on ethical, environmental, and societal responsibilities.

In line with the Higher Education Commission Communique Feb 2026, this foundation programme provides an alternative pathway for students who do not have entry qualifications to join a Post-Secondary Education program and who aspire to pursue science-based degree programmes. It serves as a stepping stone into undergraduate studies in biotechnology, environmental science, and related disciplines.

The curriculum covers a wide range of subjects including fundamentals of biology, chemistry, microbiology and biochemistry, along with specialized introductory modules in biotechnology and environmental science. Students will explore topics such as basics of genetic, molecular biology, sustainable development, biodiversity conservation, environmental pollution, and climate change. Additional components include scientific communication, laboratory techniques, and basic research methodology.

The programme combines classroom teaching with extensive practical training. Students will work in modern laboratories where they gain hands-on experience in techniques such as DNA extraction, microbial culturing, environmental sampling, and data analysis. These practical sessions help build confidence and prepare students for advanced scientific study.

At the School of Life Sciences, we emphasize experiential and applied learning. Students are provided opportunities for field visits, environmental studies, mini research projects, and exposure to biotechnology labs and conservation initiatives. These experiences enable them to connect theory with practice, understand real-world applications, and develop a professional outlook.

Upon successful completion of the programme, students will have a strong foundation in life sciences with exposure to biotechnology and environmental science, allowing them to confidently progress into undergraduate degree programmes in areas such as biotechnology, microbiology, environmental science, biochemistry, and related fields.

JSSAHERM remains committed to offering a supportive and innovative learning environment. The campus is equipped with advanced laboratories, modern classrooms, a resource-rich library, and research facilities. We aim to nurture well-rounded individuals who are prepared to contribute to scientific advancement, environmental sustainability, and global well-being.

B. Programme Aim

This Foundation Programme in Life Sciences supports the Government's vision of developing a 'Knowledge Hub' by encouraging students to pursue studies in biotechnology, biochemistry, environmental science and other emerging fields of life sciences. It provides students who are unable to access degree programmes with the essential knowledge and skills required for progression in the life sciences field.

The Foundation Programme in Life Sciences aims to provide students with the essential knowledge, practical skills, and academic competencies required for successful progression to undergraduate studies in life sciences and related disciplines. The programme is designed to build a strong scientific foundation while fostering critical thinking, problem-solving, and effective communication skills.

The programme aims to:

1. Provide students with a solid foundation in the core scientific disciplines of biology,

2. chemistry, mathematics, and communication skills relevant to the life sciences.
3. Develop fundamental laboratory and practical skills, emphasizing safe laboratory practices, accurate data collection, analysis, and interpretation.
4. Strengthen students' quantitative reasoning and scientific literacy.
5. Enhance students' academic communication skills and scientific writing.
6. Prepare students for successful entry into undergraduate programmes in Life Sciences, Biomedical Sciences, Biotechnology, Environmental Sciences, Health Sciences, Agriculture, Nutrition, and other related fields.

C. Programme Objectives

Upon successful completion of this programme, participants will be able to:

- Understand fundamental concepts in core life science disciplines, including Biology, Chemistry, and Biochemistry.
- Gain the knowledge on role of microorganisms, and environmental factors in life science and ecosystems.
- Explain the structure, function, and processes of living organisms at molecular, cellular, and systemic levels.
- Demonstrate practical laboratory skills, including safe handling of equipment, accurate data collection, and basic experimental techniques.
- Be prepared for further studies or careers in fields such as biotechnology, environmental science, and biochemistry.

D. General Entry Requirements to the FPLS

Mauritian Nationality

- (a) A minimum of three credits with at least "Pass" grade in the English language at one sitting at the School Certificate or General Certificate of Education Ordinary level; and
- (b) Passed in at least one subject at the principal level at the Higher School Certificate or General Certificate of Education Advanced level; and

For International students

- a) A secondary school exit qualification equivalent to a Cambridge School Certificate or O-level with at least five credits including English.
- b) International students who have studied in a medium other than English language will have to follow an English language programme before joining the Foundation Programme.

E. Programme Mode and Duration

Full-Time: Minimum 1 years (2 Semesters) – Maximum 2 years (4 semesters).

(i)	Delivery mode	Full Time
(ii)	Delivery Type	Face to face/contact
(iii)	Duration (minimum and maximum) in terms of years, and contact hours per year	Full time: Minimum 1 year (2 semesters)– Maximum 2 years (4 Semesters) and 320 contact hours
(iv)	Number of semesters	Full time: Minimum 2 Semesters – Maximum 4 Semesters

F. Attendance Requirements

The students must secure a minimum of 80% attendance in each module to become eligible to take term end examination. All students must attend every lecture and practical classes except for approved leave like medical emergencies etc., Each module of the semester is treated as a separate unit for calculation of the attendance. A student, who does not satisfy the attendance requirement, mentioned as above, is not be eligible to appear for the examination of that semester and not promoted to the next semester. The student is required to repeat that semester along with regular students later by paying the prescribed fee as per the regulations of JSSAHERM

G. Student Progress and Assessment

- The evaluation of performance of the student is based on the marks obtained in each module. Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) are calculated to determine their final awards at the end of their programme of study.
- Modules are assessed through internal assessment and written examinations of duration of 3 hours.
- All modules are normally assessed over 100 marks.
- The overall pass mark for a module shall be 50%, subject to the students submitting their continuous assessment within set deadlines.
- All modules must be passed in the examinations, coursework and other forms of assessment.

The modules will be assessed as follows:

- End semester examinations contributing to 70% of the total marks for theory and 60% for practical.
- Continuous assessment including sessional exams carrying 30% of total marks for theory and 40% for practical of total marks. Continuous assessment can be based on attendance, seminars and/or assignments and other activities.

In order to pass in a module, a minimum of 50% should be attained in:

- Continuous assessment, and in
- End semester examination

Scheme for awarding Continuous mode marks;

Criteria	Maximum Marks
Attendance	4
Academic activities (Average of any 3 activities e.g. quiz, assignment, open book test, group discussion and seminar). For Practical's - Based on Practical Records, Regular viva voce, etc.	3
Student–Teacher interaction	3
Total	10

Guidelines for the allotment of marks for attendance

Percentage of Attendance	Marks
95 – 100	4
90 – 94	3
85 – 89	2
80 – 84	1
Less than 80	0

Scheme for internal assessments and end semester examinations

Subject	Assessment				End Semester Exams		Total Marks
	Continuous Mode	Internal assessment		Total	Marks	Duration	
		Marks	Duration				
Theory	10	20	1 Hr	30	70	3 Hrs	100
Practical	10	30	4 Hrs	40	60	4 Hrs	100

Letter grades and grade points allocations:

Award classifications shall be based on the performance of each candidate in examinations/coursework as determined by the Academic Council.

Based on the performances, each student shall be awarded a final letter grade at the end of the semester for each course as given below:

Undergraduate/ Postgraduate		
Overall Marks	Grade	Remarks
$90 \leq X \leq 100$	O	Outstanding
$80 \leq X < 90$	A	Excellent
$70 \leq X < 80$	B	Very Good
$60 \leq X < 70$	C	Good
$50 \leq X < 60$	D	Satisfactory
$X < 50$	F	Failed

Grade Points equivalent to Percentage of marks and performances

Percentage of Marks Obtained	Grade Point (G)
90.00 – 100	10
80.00 – 89.99	9
70.00 – 79.99	8
60.00 – 69.99	7
50.00 – 59.99	6
Less than 50	0
Absent	0

A learner who remains absent for any end semester examination shall be assigned a letter grade of AB and a corresponding grade point of zero. He/she should reappear for the said evaluation/examination in due course.

Calculation of semester grade point average (SGPA)

The performance of a student in a semester is indicated by a number called ‘Semester Grade Point Average’ (SGPA). The SGPA is the weighted average of the grade points obtained in all the courses by the student during the semester. For example, if a student takes four courses (Theory/Practical) in a semester with credits C1, C2, C3, and C4 and the student’s grade points in these courses are G1, G2, G3, and G4, respectively, and then students’ SGPA is equal to:

$$\text{SGPA} = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4G_4}{C_1 + C_2 + C_3 + C_4}$$

The SGPA is calculated to two decimal points. It should be noted that, the SGPA for any semester shall take into consideration the F grade awarded in that semester. For example, if a learner has a F grade in course 3, the SGPA shall then be computed as:

$$\text{SGPA} = \frac{C_1G_1 + C_2G_2 + C_3 \text{ ZERO} + C_4G_4}{C_1 + C_2 + C_3 + C_4}$$

The CGPA is calculated with the SGPA of all the semesters to two decimal points and is indicated in final grade report card/final transcript showing the grades of all semesters and their courses. The CGPA shall reflect the failed status in case of F grade(s), till the course(s) is/are passed. When the course(s) is/are passed by obtaining a pass grade on subsequent examination(s) the CGPA shall only reflect the new grade and not the fail grades earned earlier. The CGPA is calculated as:

$$\text{CGPA} = \frac{C_1S_1 + C_2S_2 + C_3S_3 + C_4S_4 + C_5S_5 + C_6S_6 + C_7S_7 + \dots + C_nS_n}{C_1 + C_2 + C_3 + C_4 + C_5 + C_6 + C_7 + \dots + C_n}$$

where $C_1, C_2, C_n, \dots$ is the total number of credits for semester I, II, ..., n, and $S_1, S_2, S_n, \dots$ is the SGPA of each semester I, II, ..., n.

H. Programme Structure – Foundation Programme in Life Sciences

Full Time One Year

Semester 1				Semester 2			
Code	Modules	Hr T/P per week	Credits	Code	Modules	Hrs T/P per week	Credits
FPLS101T	Fundamentals of Biology	4	4	FPLS201T	Basics of Microbiology	4	4
FPLS102T	Fundamentals of Chemistry	4	4	FPLS202T	Basics of Biotechnology	4	4
FPLS103T	Mathematics	4	4	FPLS203T	Communication Skills	4	4
FPLS104T	English Language	4	4	FPLS204P	Laboratory Practice	4	4
Total		16	16	Total		16	16