JSS Academy of Higher Education and Research (Mauritius)

BSc (Hons) Cosmetic Sciences

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Part I

PROGRAMME DOCUMENT

JSS Academy of Higher Education and Research (Mauritius)

Faculty of Life Sciences

B.Sc. (Hons) Cosmetic Sciences

PROGRAMME DOCUMENT

B. Sc. (Hons) Cosmetic Science

A. Program Information

Bachelor of Science (B. Sc. Hons.) in cosmetic science is an undergraduate degree course with duration of 3 years (6 semesters). Cosmetic Science is an interdisciplinary applied science program providing students with the opportunities to develop professional skills and fundamental concepts driving cosmetic science. BSc (Hons) Cosmetic Science focuses on the needs of the cosmetic industry and its consumers, in addition to providing students with the critical and evaluative skills to become professional scientists. B. Sc. (Hons) in Cosmetic Science covers a range of sciences, both pure and applied, formulation development and industry operations, all of which give you a broad range of career opportunities.

B.Sc. (Hons.) degree in Cosmetic Science at JSS AHER (Mauritius Campus) is intended for high school graduates and students from wide range of backgrounds who aim to develop their knowledge and insights in the area of cosmetic science-based products. This course introduces relevant aspects of chemistry, physiology and dermatology as well as the regulatory, marketing and business framework for cosmetics. Students will be introduced to the principles of formulation, with an emphasis on those related to cosmetics. The course is designed to provide knowledge in various scientific aspects that will enable to design and develop products that are safe, effective and also address the changing consumer needs.

B. Programme Aims

The program aims to:

- Provide knowledge on cosmetics, and related sciences, cosmeceuticals (cosmetics with skin, hair and oral care benefits), Personal care and hygiene products.

- Provide knowledge on relevant aspects of chemistry, physiology and dermatology as well as the regulatory and marketing aspects.
- Provide a multidisciplinary scientific knowledge to gain expertise in the field and to respond the industry challenges effectively.
- Provide with knowledge on marketing approaches on studying consumer need, need gaps, managing competition and global markets.
- Provide practical skills in the area of biology, formulation science and analytical techniques required to scientifically design and develop products.
- Develop potential to have a career in this fast-growing industry.

Job Prospects:

- Practice as Cosmetologist
- Cosmetics/Cosmeceuticals Industry
- Scientist (Research field)
- Teacher (Junior Lecturer)
- Quality Control Officer (Analyst)
- Federal regulatory authority
- Marketing professional
- Entrepreneur in the field

C. Programme Objectives

The programme aims to provide the students with:

1. Teaching and learning techniques which place emphasis on didactic learning.
2. A curriculum which provides a broader range of subjects to facilitate the development of skills, abilities, pursuit of interest and promotion of career development.
3. The ability to contribute to the new and modern developments with reduced impact on the environment.
4. Gain updated information on cosmetic science; properties of the skin, hair and nails and the cosmetic products and ingredients that may actively affect these properties.
5. Apply information gained to make cosmetic formulations correctly and effectively.
6. Be able to recognize the ingredient(s) that can be effective or problematic for an individual with specific needs or complaint.

7. Be able to make comparisons between the cosmetic products and evaluate their suitability for a particular need.
8. Critically review, analyse, and evaluate scientific data and basic research in cosmetic science.

D. Overall Program Learning Outcomes

This program will enable students to:

1. Know-how to apply physiology/biology of relevant skin, hair, targeted organ systems as these relate to achieve or evaluate the desired outcome of the use of cosmetic and personal care products.
2. Understand the chemistry and application of cosmetic ingredients to effectively select ingredients for formulation development and also have career in cosmetic raw material industry.
3. Formulate cosmetic and personal care product types (emulsions, suspensions, gels, solutions, aerosols, etc.) to meet desired product attributes using an understanding of the physical and chemical basis of these formulations.
4. Identify and evaluate potential new actives and benefit delivery approaches from the relevant literature that could provide improved product performance.
5. Know-how to develop new product formulation approaches from evaluation of existing products and the relevant literature, and from designed experimentation to create products with improved benefits and consumer experience.
6. Gain familiarity with relevant government regulations which will help confirm product compliance.
7. Prepare written assessments/proposals and orally present and defend them.
8. Develop soft skill project management skills that will enhance leadership opportunities.
9. Confident understanding and use of subject specific principles and methods associated with the subject, including good laboratory practices, appropriate use of instrumentation, and monitoring regimes.
10. Understand consumer needs, design appropriate cosmetic products and develop products within depth understanding on raw materials, actives, delivery systems, safety and efficacy of final the product.
11. Employ skills in independent learning including identifying, accessing and citing authoritative information from a variety of sources; time management, IT and computer assisted learning skills; and critical reflection on own learning.

12. Appropriately employ communications and soft skills related to marketing, management and administrative roles in cosmetic industries and related fields .

13. Work effectively in a team, taking full responsibility for both process and outcome.

E. General Entry Requirements

JSS AHER (Mauritius Campus) will follow the admission requirements of TEC for tertiary education level programmes. The Faculty of Life Sciences, on a case-to-case basis, will make admission decisions.

Candidates must have:

EITHER

(i) Pass in 3 Subjects at A-level and 1 subject at subsidiary level of Higher School Certificate Examination;

OR

(ii) Pass in 2 Subjects at A-level and 2 subjects at subsidiary level of Higher School Certificate Examination;

OR

(iii) Pass in 3 Subjects at A-level at the London General Certificate Examination;

OR

(iv) A qualification equivalent to the above.

Overseas Candidates

Overseas candidates whose first language is not English and who do not hold a degree or equivalent professional qualification taught in English will be required to produce evidence of their competence in English.

F. Programme Entry Requirements

(I) "O" Level with Physics and Mathematics.

And

(II) "A" Level in Biology and Chemistry.

G. Programme Mode and Duration

Full Time: Minimum 3 Years (6 Semesters) – Maximum 6 Years (12 Semesters)

H. Teaching and Learning Strategy

The program will consist of a wide variety of teaching methods, including lectures, tutorial and practical, individual or group projects, assignments, presentations, workshops, seminars and case studies. Self-learning will be the key feature of the programme, enabling students to explore, investigate and research in various issues related to infrastructure and construction management.

The following principles aim to guide excellence in learning and teaching practices, while recognising that effective learning and teaching involves a partnership between students and the institution:

a) Creating an engaging, motivating, and intellectually stimulating learning environment and experience.

b) Encouraging the spirit of critical inquiry and creative innovation informed by current research.

c) Emphasising the importance, relevance, and integration of theory and knowledge with professional practice to develop solutions to real world issues.

d) Providing learning experiences that develop inter-culturally capable graduates who can make a difference as socially and ethically responsible global citizens.

e) Valuing and recognising individual and cultural diversity through the provision of an inclusive context of support and respect for all students.

f) Enhancing student engagement and learning through effective curriculum design, pedagogy and assessment strategies.

g) Continuously improving teaching practice through academic staff professional development, and critical reflection informed by a range of evaluation approaches.

h) Conducting evaluation (feedback) exercises, through which the students will be encouraged to give their view and rate the teaching quality of each lecturer – The feedback survey forms would be analysed, and reports would be generated. Appropriate measures would be taken to improve weaknesses and shortcomings;

All feedback survey forms would be securely kept for verification and consultation as and when required; The feedback exercise will be conducted every semester before the end of courses to ensure that students' views are appropriately taken care prior to their sitting for examinations;

i) Conducting Performance Appraisal exercises for all teaching and non-teaching staff members; This exercise allow the institution to find room for improvement, evaluate the staff's opportunities for promotion and to channel staff members for training and development as learning is an on-going process not only students but for lecturers and other staff members also.

JSS Academy of Higher Education and Research, Mauritius considers feedback from students as vital and has established a student feedback form for each module being taught every semester. The criterion under which a course will be evaluated is as follows:

a) Knowledge of the lecturer related to the subject;

b) Coverage of the syllabus – Was the syllabus covered completely and thoroughly or was any topic not covered;

c) Delivery of lecturer or demonstration for practical;

d) Discipline in class (theory and practical) – Did the lecturer have control over his batch of students;

e) Interaction in class – Did the lecturer invite students to participate in class?

f) Audibility of voice – Did the lecturer express himself clearly and could all students hear / understand when he/ she explained?

g) Explanation and emphasis on important points – Was the subject being explained with respect to the syllabus and were important points highlighted? Did the lecturer make use of relevant examples to support the explanations?

h) Evaluation of subject notes or learning materials being provided to students – clarity, conciseness and relevance;

i) Infrastructure being given for the subject being taught – classroom quality (clarity of white board, aeration, LCD and multimedia projector equipment, etc.)

j) Evaluation of practical sessions – laboratories, equipment, safety, knowledge of the lecturer, etc.

k) Information being given students – Did the lecturer provide students with information that were related to only the subject matter or did they provide a broader picture of the subject for more learning.

l) Were students motivated to attend conferences/ seminars / industrial training to enhance their knowledge?

The feedback exercise would be carried out anonymously meaning that students do not divulge their identities while filling the form Once the feedback exercise has been carried out, the administrative department would work on each form and compile the data and submit same to the Head of Faculty. The latter will analyze the information and call the lecturers to inform them of the evaluation of the subject and work on ways to improve effectiveness and efficiency of lecturers and implementation of new ways of teaching and learning.

The feedback mechanism is expected to assist JSS Academy of Higher Education and Research, Mauritius Campus, to improve the following:

- Quality of teaching
- Service provided to students both academic and non-academic
- Infrastructure – new equipment in laboratories, classrooms
- Organization of extra-curricular activities – outings, sports activities, cultural events, etc.
- Quality of learning materials distributed to students
- Importance of courses being delivered;
- Objectives and career pathway of students
- Creation of short training programmes to enhance learning
- Encouraging faculty members to pursue their studies to higher levels
- Converting weaknesses of faculties to strengths to provide better learning opportunities for students.

I. Student Support and Guidance

Each cohort of the programme is allocated a Programme Coordinator who will act as a liaison officer between the students and the institution. The programme coordinator will also provide support for academic management of the programme

The student support and guidance include:

- Tutoring
- Access to library / E-library
- Access to IT workshop
- A variety of student welfare activities.

J. Attendance Requirement

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

K. Credit System

a. Credit Equivalence

1. (i) 1 credit = 15 hours of lecture
   (ii) 1 credit = 30 hours of practical/tutorials/seminars
2. Project / Dissertation: 12 credits.

b. Credits Per Level

Each level shall constitute of the following number of credit subject to the required number of credits for award:

Level 1(Certificate)	:40 credits
Level 2 (Diploma)	:40 credits
Level 3 (B.Sc. (Hons))	:40 credits

L. 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 written examinations of duration of 3 hours.
- All modules are normally assessed over 100 marks including project/dissertation which will also be assessed over 100 marks.
- The overall pass mark for a module shall be 40%, 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
- Continuous assessment including sessional exams carrying 30% 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 40% should be attained in:

a) Continuous assessment, and in
b) End semester examination

Continuous Internal Assessment (CIA)

Continuous assessment carries 30% of the total marks. Continuous assessment can be assessed based on the seminars and/or assignment and/or practicals and/or class test.

End semester Examination

The end semester examination is of a duration of 3 hours and for 70 marks. The external examiner in consultation with the internal examiner will frame the practical exam question paper.

The External and Internal examiners will be present during the conduction of pratical on the day of examination. The students are asked to conduct a practical experiment and record the observation in the answer booklets provided. Students will be assessed by the examiners individually on the basis of their performance of their experiments during the exams and on the answer booklets submitted.

Assessment of Practical

The practical is assessed in two ways for 4 credits i.e., 70:30 ratio (70- End semester examination, 30- Continuous Internal Assessment).

The practical are conducted periodically in the concerned subject. The procedure and methods for each experiment is provided the previous day.

The faculty will demonstrate the practical to the students

The student will perform the experiment in the laboratory and finish the same in the stipulated time.

The students have to record the practical observations in the observation book. Once the observation is approved by the faculty/ practical in charge faculty they have to replicate the same in the record book which is provided by the institution

The practical record should be submitted during end semester examination duly certified by the faculty in charge /Head/Dean before submitting for the end semester examination.

Assessment of Experiential Training

Students are required to submit a report on **Experiential Training** course. A mentor will be allotted by head of the department to each student. This may require Beauty Salon/ Dermatology Department in Hospital/Field/Industrial visit. The student will Investigate/ Analyze any aspect related to the subject of interest.

The report may comprise of the following:

1) Identification/ details of aspect to be investigated
2) Conducting appropriate analysis, and
3) Findings and report writing.

The module comprises of 8 credits.

Presentation:

Each student will give a short (approximately 8-minute) presentation of their report during the final week of the semester. The presentation should include:

1) a description of the investigation,

2) specific issues analyzed,

3) the details of the analysis and findings, and

4) a discussion of the key results.

Assessment:

Dimensions	Percentage of Marks
Problem Definition	5
Work Plan	5
Methodology	10
Presentation Findings	20
Conclusion/Recommendations	10
Overall Report	20
Preparation for Seminar Presentation & Viva - Voce	30
Total	**100**

Project Work/ Dissertation:

At the end of program *i.e.,* in 6th Semester all students should complete a dissertation work and the weightage for the project is as follows

Total 12 credits

10 Credit for dissertation

02 credit for Viva voce

Each student should have mentor (Guide) allotted by the HOD/Dean at the beginning of 5th Semester itself.

The student should discuss with his guide about research problem and carryout the same and he/she should submit the dissertation fifteen days before the end of project i.e., end of the examination deadline.

Dissertation Content:

The content of the dissertation is as follows:

- Introduction
- Literature Review
- Materials and Methods
- Analysis of Findings
- Results & Discussion
- Summary and Conclusion
- References

Assessment:

1. The Controller of Examination in consultation with the Dean appoint one external examiner to value and conduct the viva voce/ Internship examination of the dissertation submitted by the student.
2. The guide is the other examiner.
3. Both the examiners submit their marks to the controller of examination.
4. If the marks difference exceeds more than ten between the examiners the dissertation/internship may be valued by a third examiner.

   The average of the marks from the two examiners is taken into account for the award of dissertation/internship marks to the student.

S. No.	Particulars	Percentage of Marks
1	Relevance of the subject in the present context	**10**
2	Literature Survey	**10**
3	Problem formulation	**10**
4	Experimental observation / theoretical modeling	**10**
5	Results – Presentation & Discussion	**10**

6	Conclusions and scope for future work	**10**
7	Overall presentation of the Thesis/Oral presentation	**40**
	Total Marks	**100**

Grading System:

Undergraduate		
Overall Marks	**Grade**	**Remarks**
70 ≤ X ≤100	A	Excellent
60 ≤X < 70	B	Very Good
50 ≤ X < 60	C	Good
40 ≤ X < 50	D	Satisfactory
X < 40	F	Fail

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 five courses (Theory/Practical) in a semester with credits C_1, C_2, C_3, C_4 and C_5 and the student's grade points in these courses are G_1, G_2, G_3, G_4 and G_5, respectively, and then students' SGPA is equal to:

$$\textbf{SGPA} = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4G_4 + C_5G_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

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 4, the SGPA shall then be computed as:

$$\textbf{SGPA} = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4 * 0 + C_5G_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

Calculation of Cumulative Grade Point Average (CGPA)

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:

$$\textbf{CGPA} = \frac{C_1S_1 + C_2S_2 + C_3S_3 + C_4S_4 + C_5S_5 + C_6S_6 + \cdots + C_nS_n}{C_1 + C_2 + C_3 + C_4 + C_5 + C_6 + \cdots + C_n}$$

where C_1, C_2, $C_{n....}$ is the total number of credits for semester I, II…, n, and S_1,S_2, $S_{n....}$is the SGPA of each semester I,II,…, n.

M. Award Classification

The class shall be awarded on the basis of CGPA as follows:

Classification of Award	CGPA
First Class with Distinction	7.00 and above
First Class	6.00 to 6.99
Second Class	5.00 to 5.99
Third Class	4.00 to 4.99
No Award	less than 4.00

N. Programme Organisation and Management

Programme Coordinator:

Name: Dr. Asha Srinivasan

Email: asha.srinivasan@jssuni.edu.in

O. Programme Structure
BSc (Hons) Cosmetic Science – Full-Time

YEAR 1							
Semester 1				*Semester 2*			
Code	**Modules**	**Hrs/Wk**	**Credits**	**Code**	**Modules**	**Hrs/Wk**	**Credits**
BCST101	Cosmetic Chemistry I	4	4	BCST201	Biological Aspects of Cosmetic Science	4	4
BCST102	Basic Anatomy & Physiology Cell Biology	4	4	BCST202	Cosmetic Chemistry II	4	4
BCST103	Basic Analytical Principles	4	4	BCST203	Cosmetic Science Formulation I	4	4
BCST104	Statistical Applications	4	4	BCST204	Biochemistry	4	4
BCSP105	Anatomy & Physiology Lab	4	2	BCSP205	Cosmetic Chemistry Lab	4	2
BCSP106	Basic Analytical Principles Lab	4	2	BCSP206	Biochemistry Lab	4	2
		Total	**20**			**Total**	**20**

YEAR 2							
Semester 3				*Semester 4*			
Code	**Modules**	**Hrs/Wk**	**Credits**	**Code**	**Modules**	**Hrs/Wk**	**Credits**
BCST301	Microbiology	4	4	BCST401	Cosmeceuticals	4	4
BCST302	Cosmetic Science Formulation II	4	4	BCST402	Regulatory Affairs & Quality Assurance	4	4
BCST303	Herbal Science	4	4	BCST403	Engineering Principles	4	4
BCST304	IPR, Bioethics and Biosafety	4	4	BCST404	Instrumental Analysis	4	4
BCSP305	Microbiology Laboratory	4	2	BCS405	Cosmetic Formulation Science Lab -II	4	2
BCSP306	Cosmetic Science Formulation Lab-I	4	2	BCSP406	Instrumental Analysis Lab	4	2
		Total	**20**			**Total**	**20**

YEAR 3							
Semester 5				*Semester 6*			
Code	**Modules**	**Hrs/Wk**	**Credits**	**Code**	**Modules**	**Hrs/Wk**	**Credits**
BCST501	Marketing Management	4	4	BCST 601 (a/b)	Elective - I*	4	4
BCST502	Safety and Efficacy Evaluation	4	4	BCST 602 (a/b)	Elective - II**	4	4
BCST503	Advanced Analytical techniques	4	4	BCS603	Project Work		10
BCS504	Experiential Training		8		Viva - voce		2
		Total	**20**			**Total**	**20**

***For Elective I (Any one of the following papers)
BCST601 a-Beauty Culture & Cosmetics
BCST601 b-Genetics
****For Elective II (Any one of the following papers)
BCST602 a- Principles of Nanotechnology
BCST602 b-Immunology

Summary of Number of Credits

Total Number of Credits	
Semester	**No. of Credits**
I	20
II	20
III	20
IV	20
V	20
VI	20
TOTAL	**120**