Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

STANDARD OPERATING PROCEDURE

For

- **CURRICULUM PLANNING**
- **CURRICULAR IMPLEMENTATION (TEACHING – LEARNING SOP)**
- **OUTCOME ATTAINMENT (OUTCOME ANALYSIS)**
- **CURRICULAR REVISION**

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

GOAL AND PURPOSE

- This SOP shall ensure inclusive, uniform and standardised processes across all constituent institutions / units of SUG with regard to Curriculum Design, Development and Implementation.
- Curricular input processes must include all relevant stakeholders and follow a systematic and dynamic approach in accordance with local, regional, national and global health needs (in alignment with Regulatory requirements).
- Curriculum implementation must include best practices for teaching-learning & continuous assessment.
- Uniformity and standardised processes are key to enable successful curricular alignment and hence achievement of defined Programme and Course Outcomes.
- Outcome analysis of student performance and attainment must be regularly carried out for all programmes and courses be used for curricular improvement. Curriculum revision must include content and process analysis that is need-based, relevant innovative and dynamic.

OBJECTIVES

- To define a standard procedure for curriculum design, development and to implementation for monitoring curriculum teaching-learning-assessment in a uniform manner while make improvements/revisions as necessary, including faculty development to ensure teacher quality
- Although all constituent units follow the directives of respective regulatory councils, this SOP will help to ensure that in all constituent units, curriculum processes are uniformly implemented and monitored in a student-centred manner, towards attainment of Programme Outcomes and Course Outcomes.

CURRENT BEST PRACTICES

- The Outcome-Based Education Approach has been adopted, with outcomes defined as Programme Outcomes (POs), and Course Outcomes (COs) for all Programmes and Courses offered by the University which are implemented through a systematic and dynamic approach.
- Course content, mapped to the POs and COs for all programs and courses along with the learning outcome competencies for cognitive, psychomotor as well as affective domains, written and aligned with teaching-learning and assessment methods
- Curriculum implementation has a student-centred focus and is well informed by global practices in health professional education.
- Faculty development in newer methods of teaching-learning, development of e-content and newer assessment methods is designed for successful curricular implementation which is planned and conducted regularly.
- Both curricular implementation & monitoring are well documented and periodically analysed to derive inputs for continuous improvement of curriculum, its implementation and outcome attainment.

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

- Wellness through Yoga and Naturopathy and Heritage Research Centre are categorized the best practices.

METHODOLOGY FOR IMPLEMENTATION OF SOP

THE SOP CONSISTS OF THE FOLLOWING FOUR COMPONENTS

A. CURRICULUM PLANNING

B. CURRICULAR IMPLEMENTATION (TEACHING – LEARNING SOP)

C. OUTCOME ATTAINMENT (OUTCOME ANALYSIS)

D. CURRICULAR REVISION

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

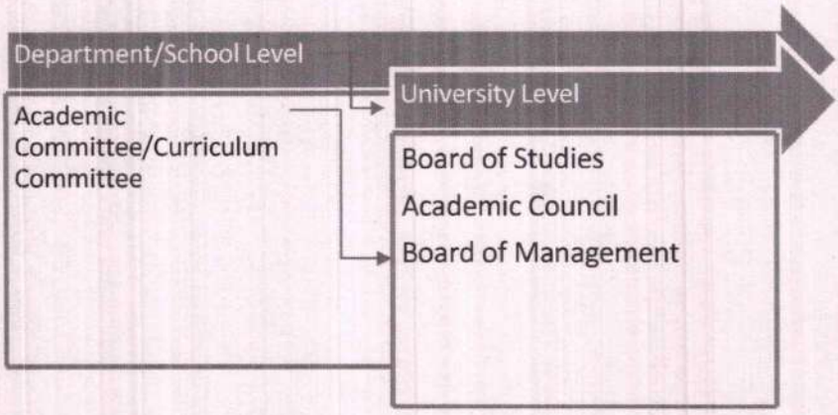
(A) CURRICULUM PLANNING

- Curriculum Planning shall be initiated at the Departmental/School Level
- For new programs as well as existing programs, the HOD with inputs from faculty, alumni, external subject experts shall prepare the curriculum focusing on and justifying relevance of curricular content to
  - local, regional, national and global needs
  - student aspirations and career goals
- Course content shall be mapped to the POs and COs for all programs and courses and the learning outcome competencies (LOCs) for cognitive, psychomotor as well as affective domains, written and aligned with teaching-learning and assessment methods:
  - Curricular implementation strategies should include multiple methods, aligned to Learning Outcome Competencies (LOCs) and that are student centric, participatory, actively engaging the learners, promoting problem solving and critical thinking, enabling experiential learning and development of skills, values and ethics.
  - Integrated (intra- and trans-disciplinary) learning with special reference to cross-cutting issues, communication skills, environment and sustainability, health determinants using horizontal and vertical integration, problem-based learning, team-based learning, etc.
- The above shall be submitted to the concerned Board of Studies through the Curriculum Committee and Dean/Principal.
- The Board of Studies shall review the same and modify/accept the changes, after thorough discussion, deliberation. The Board shall recommend the same to the concerned Faculty and Academic Council.
- Modification if any of Program Outcomes (PO's) and Course Outcomes (CO's) for Programmes / Courses, shall include:
  - Curricular enrichment
  - Innovations
  - Holistic student development and
  - Continuous progression of learning
  - Newer assessment methods
- The concerned Faculties and Academic Council shall examine the curriculum proposals of the various Boards of Studies and Faculties and approve with suggested changes or refer back the curriculum to BOS with suggestions for modification
- The Board of Management shall examine the curriculum proposed by the Academic Council and approve with suggested changes or refer back the curriculum to Academic Council for modification
- The curricula / curricular changes approved by the University shall be communicated to the concerned Constituent Unit for implementation.

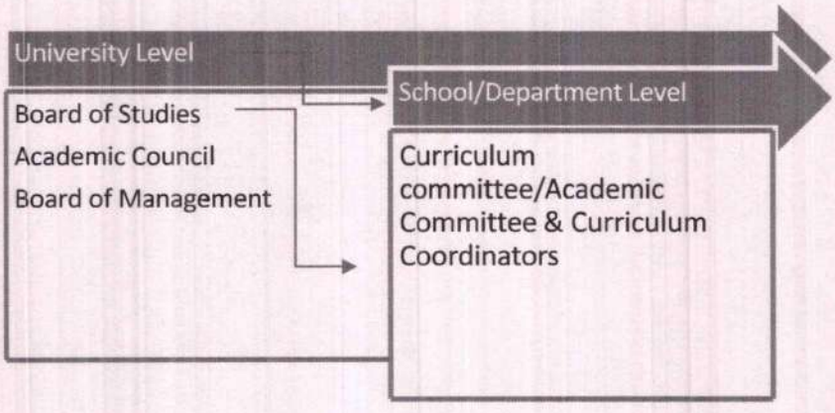
Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

CURRICULUM PLANNING – INPUT

Department/School Level



CURRICULUM PLANNING – OUTPUT



Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

(B) CURRICULAR IMPLEMENTATION

- The institutional curriculum committee shall develop the Curricular Implementation Plan and Schedule (Including content mapping, innovative T-L and Assessment Methods and new topics) for implementation by the Departments

CURRICULAR IMPLEMENTATION AT THE DEPARTMENT LEVEL SHALL INCLUDE:

- Course-wise Curriculum Content mapping to POs and COs
- Topic / Unit-wise - Specific Learning Objectives (SLO's) by Department including all three domains – cognitive, psychomotor and affective
- Resources uploading by Faculty of respective colleges and departments to DPU-LMS-ERP system for students
- Development of lesson plans for all assigned teaching sessions.
- Student Feedback and a Continuous Assessment Plan followed by all Departments
- Support to students with special reference to advanced learners and slow performers
- Feedback collected periodically from all stakeholders to identify and drawing pertinent pointers to enhance the learning effectiveness
- Necessary infrastructure, resource materials and facilities shall be provided to all departments as per Regulatory norms and as per specific requirements of the course
- Teaching-Learning and Assessment following contemporary educational approaches
- Process manual for documentation of all teaching-learning, formative and continuous assessment processes shall be developed and followed by every department for every course and program
- Responsibility of the Department to conduct Outcome Analysis and prepare a report for each academic year.
- Regular training of all faculty so that they are updated to ensure quality of implementation

GUIDING FRAMEWORK FOR TEACHING-LEARNING-ASSESSMENT

To ensure that every student at SUG receives best teaching-learning experiences and support, to reach their fullest potential and the desired proficiency benchmark for attainment of expected course and programme outcomes SPICES Model shall be used.

SPICES MODEL is a well-known for implementation of teaching-learning in outcome- based education that has been globally accepted in health professional education. It can also be applied to other professional education programs.

It provides framework to shift the teaching-learning to a more active, analytical and participatory approach which is more student centred, as opposed to traditional method which is teacher-centric with lesser opportunity for active participation for students.

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Fig.1. The SPICES Model of Educational Strategies

S– Student Centred	**Teacher Centred**
P - Problem based	**Didactic**
I - Integrated	**Discipline-based**
C - Community Oriented	**Hospital-based**
E – Electives	**Compulsory / Standard Program**
S – Systematic.	**Apprenticeship Based/Opportunistic**

1. Harden RM, Sowden S, Dunn WR. Educational strategies in curriculum development: the SPICES model. Med Educ 1984; 18: 284-297.

2. Quirk M.E., Harden R. M. (2017). Curriculum planning and development. In Dent, J., Harden, R. M., & Hunt, D. (Eds.). A practical guide for medical teachers. (pp. 7) Elsevier Health Sciences.

RESPONSIBILITIES

The Head of Institution is responsible for ensuring effective implementation of the SOP at their respective constituent Unit.

IMPLEMENTATION OF STUDENT-CENTRED TEACHING - LEARNING

1. The plan for implementation of T-L for all Programs will be finalised by the respective Constituent Units taking into consideration the respective Council norms and feedback analysis from various stakeholders well before commencement of the academic term. The same will be submitted to the BOS for inputs followed by Academic Council and Board of Management for approval

2. The final plan as approved by Academic Council and Board of Management will be communicated to the Head of Institution for implementation

3. The academic calendar will be prepared by the respective colleges, taking inputs from the respective HODs and Education Units for scheduling the T-L activities and continuous assessment dates.

4. The College Council/Dean will direct its implementation and assign responsibility to academic coordinators.

5. Every HOD will ensure the implementation at the Departmental/School level

6. Feedback will be taken from students regarding the T-L Process as per Feedback SOP which will be informed to the HODs for making necessary changes/ addressing the concerns of the students.

7. The HODs shall be responsible to ensure training of faculty in education technology and assign teaching responsibility according to the capability and content expertise of the teachers.

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

8. The HODs will conduct regular meetings with departmental faculty to gather curricular inputs, obtain feedback and address their concerns.

9. The HODs will schedule and monitor the continuous internal assessment process

10. The HODs will assign responsibility to the teachers to support advanced learners and slow performers

11. The faculty members will be nominated / granted permission for attending training / workshops in newer methods of T-L and assessment both within the institution and outside including workshops, seminars and conferences

12. Particular emphasis will be laid on innovative methods to enable the faculty to shift from teacher-centred to student centred methodologies – interactive lectures, use of smart boards, effective group discussions, community and industrial visits, to enable students to critically analyse information and its practical application.

13. Experiential learning, patient-centric learning, evidence-based learning, integrated and interdisciplinary learning and participatory approach will be adopted during the faculty development workshops and implemented.

14. Faculty will be encouraged to learn educational research methodology and undertake education innovation and research projects

15. The NAAC Core Values will be emphasised for being taught as part of all T-L processes i.e.

    - Contributing to National Development
    - Fostering Global Competencies among Students
    - Inculcating a Value System among Students
    - Promoting the Use of Technology
    - Quest for Excellence

16. Student and faculty feedback will be taken to assess the effectiveness of implementation, including newer methods.

17. Teaching effectiveness will be reflected in students' continuous internal assessment performance and class attendance.

18. The Head of Institutions will discuss progress and address difficulties faced during implementation through periodic meetings

19. Departments and Institutional administration will maintain records strictly, which must be up to date at all times

20. Every institution will give a yearly report of its teaching-learning methodologies and innovations to UCPE & FD.

MULTIPLE METHODS

- Experiential Learning
- Integrated / Interdisciplinary Learning
- Participatory Learning

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional Area Gangoh, Distt. Saharanpur (U.P.) 247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

- Problem Solving Methodologies
- Self-Directed Learning
- Patient Centric and Evidence Based Learning
- The Humanities
- Project Based Learning
- Role Play

(C) OUTCOME ANALYSIS

3. The Outcome Analysis reflects the extent to which the Program Outcomes (PO's) and Course Outcomes (CO's) are attained and whether the attainment levels are of the desired standards.

4. Outcome Attainment for each batch of students is reflected in:
   A. Programme Outcomes - Percentage of students passing the University Annual / Semester exam for each Program

   B. Course Outcomes - For every Course in a Program - Course-wise Pass Percentage in University Exam

   C. Attainment Level (Level 1, Level 2 and Level 3) *which is determined for all Programmes and Courses

5. The Performance Levels provide valuable information to guide the Faculty, Department, Institution and University regarding areas in which students are demonstrating outstanding performance, optimum performance as well as areas for improvement and remediation

Course Attainment is the sum of Direct Attainment and Indirect Attainment. Direct Attainment is computed based on the marks obtained by students in the respective Assessment Tools and Indirect Attainment is computed from the Course End Survey/Feedback.

Table 1

CO Attainment Calculations																
	Direct attainment												Indirect Assessment			
	Internal								External							
	CIA1			CIA2					ESE				Course Exit Survey			
Number of students who have scored more than the target (P) *(Target is 60%)*		P			P						P				P	
Percentage of students who have achieved the target = (P/N)*100 *(N is the number of students who appeared in the exam)*		**(P/N)*100**			**(P/N)*100**						**(P/N)*100**				**(P/N)*100**	
Attainment Level (3 for >80%, 2 for >70%, 1 for> 60%)	a =			b =					c=				d=			
Attainment based on internal assessment (CIA) = Average of (a and b);							CIA	=								
Direct CO Attainment Level (DA) =40%CIA + 60% End-Term © ;							DA	=								

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Indirect CO Attainment Level (IA) (based on Exit Survey (d));		IA	=				
80 % of DA			=				
20 % IA			=				
CO Attainment Level (COA) = 80 % DA+ 20 % IA;		COA	=				

Note: After filling in the details in the last step (P and P/N), assign the attainment level (3/2/1 according to (P/N) values) based on Direct Assessment 1, Direct Assessment 2, and Indirect Assessment.

Attainment level (3 if more than 80% of students achieved the target/2 for >70%/1 for>60%)

*** As per regulatory norms**

The findings of outcome analysis will be used to enhance curricular output and make improvements in attainment level of the students

(D) CURRICULUM ANALYSIS FOR REVIEW AND REVISION

- Stakeholder Feedback (Students, Faculty, Practitioners, Visiting Faculty)
- Local and regional needs relevance and correlation to career pathways
- Trends Teaching Learning and assessment (Regulatory Guidelines, Updates)
- Global trends in disease patterns, emerging areas in the curriculum teaching learning and assessment

THE CURRICULUM ANALYSIS FOR EACH PROGRAM AND COURSE SHALL INCLUDE

6. Need-based identification of changes.
7. Review of national trends (regulatory guidelines, updates, guidelines) in disease patterns, Teaching Learning and Assessment / Evaluation Methods.
8. Review of global trends in disease patterns, emerging areas in the curriculum Teaching Learning and Assessment / Evaluation Methods.
9. Review of Local and regional needs and relevance and correlation to available and possible career pathways.
10. Review of stakeholder feedback (Students, Faculty, Practitioners and Visiting faculty experts).
11. Outcome Analysis Data for concerned Academic Year.

The cycle of curricular analysis, planning, implementation, and outcome analysis will be followed throughout the academic year.

SHOBHIT UNIVERSITY GANGOH REGISTRAR Saharanpur (U.P.)

Prof.(Dr.) Mahipal Singh
(Registrar)

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg. Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

SUMMARY SHEET OF THE ACTIVITIES CONDUCTED ON CROSS CUTTING ISSUES (GENDER ISSUES)

The cross-cutting activities addressing gender issues across various schools reflect a comprehensive and institutional commitment to promoting gender equity, inclusivity, and empowerment in academic and professional domains. The **School of Engineering & Technology** tackled gender disparities in STEM by hosting seminars and guest lectures on ethical AI, gender bias, and the advancement of women in engineering leadership and education. Similarly, the **School of Biological Engineering & Sciences** emphasized gender inclusivity in life sciences through focused lectures on women leaders, microbiology pioneers, and challenges in environmental science careers. The **School of Agriculture & Environmental Sciences** conducted workshops aimed at empowering women in agriculture, sustainable resource management, and advocacy, showcasing the vital role of women in environmental innovation and food security. In the **School of Education**, seminars and workshops highlighted gender sensitivity in pedagogy, inclusive classrooms, and female leadership, contributing to a more equitable educational environment. The **School of Law and Constitutional Studies** addressed legal frameworks and reforms through seminars on gender justice, sensitization in legal education, and the role of law in ensuring equality. The **School of Business Studies & Entrepreneurship** promoted corporate gender diversity, female entrepreneurship, and gender-sensitive managerial practices, linking equity with business performance. Gender-sensitive healthcare practices were explored in the **School of Ayurveda**, which conducted seminars on women's health, Ayurvedic responses to gender transition, and inclusive research and education practices. The **School of Pharmacy** advanced gender equity in healthcare by examining disparities in pharmacotherapy, leadership roles for female pharmacists, and gender bias in pharmaceutical R&D. Finally, the **School of Naturopathy and Yogic Sciences** fostered inclusivity through seminars on women's wellness, gender-sensitive naturopathic practices, and yoga spaces. Collectively, these initiatives highlight a cross-disciplinary and action-oriented approach to addressing gender issues, ensuring that gender equity is woven into the academic, scientific, legal, business, and health-related fabric of the institution.

SHOBHIT UNIVERSITY (GANGOH) REGISTRAR Saharanpur (U.P.)

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

SUMMARY SHEET OF THE ACTIVITIES CONDUCTED ON CROSS CUTTING ISSUES (HUMAN VALUES)

The cross-cutting activities based on **Human Values** across various schools underscore the institution's multidimensional approach to embedding ethics, empathy, and cultural sensitivity into diverse academic and professional disciplines. The **School of Engineering and Technology** emphasized *human-centered design* and sustainable innovation through workshops that explored engineering solutions rooted in ethical responsibility and environmental stewardship. Similarly, the **School of Biological Engineering and Sciences** promoted ethical reflection through seminars on biomedical research, public health, and genetic innovation—highlighting the balance between scientific progress and moral accountability. The **School of Agriculture and Environmental Sciences** integrated human values into rural development, food security, and environmental protection, underscoring the importance of community engagement and socially responsible agricultural practices. In the **School of Education**, a strong focus was placed on character building, culturally responsive teaching, and the incorporation of human values in digital and multicultural educational contexts, reflecting a commitment to shaping value-driven educators. The **School of Law and Constitutional Studies** examined human values through the lens of legal systems, covering topics like human rights, criminal justice, and international humanitarian law—thus advocating for the protection of dignity and cultural heritage through jurisprudence. The **School of Business Studies & Entrepreneurship** addressed the ethical dimensions of business through sessions on corporate social responsibility, marketing, organizational culture, and customer relations, thereby aligning profit with purpose. In the **School of Ayurveda**, seminars and lectures explored how ancient medical knowledge fosters human values in mental health, education, environmental awareness, and ethical entrepreneurship. The **School of Pharmacy** fostered ethical consciousness in healthcare delivery through discussions on patient counseling, global health, pharmacovigilance, and culturally competent care—reaffirming the pharmacist's role as a values-based health advocate. Finally, the **School of Naturopathy and Yogic Sciences** highlighted holistic healing practices grounded in human values, emphasizing stress management, eco-friendly wellness, and the integration of ethics in patient care and curriculum design. Overall, these initiatives demonstrate a coherent institutional ethos that prioritizes compassion, social responsibility, and moral reflection, effectively cultivating human values across technical, scientific, legal, educational, business, and health disciplines.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

SUMMARY SHEET OF THE ACTIVITIES CONDUCTED ON CROSS CUTTING ISSUES (ENVIRONMENTAL AND SUSTAINABILITY)

The cross-cutting activities on **Environment and Sustainability** undertaken by various schools underscore a robust and multidimensional institutional commitment to ecological responsibility, sustainable innovation, and climate-conscious education and practice. The **School of Engineering and Technology** led with a series of workshops addressing sustainable engineering practices, renewable energy systems, water resource management, and climate-resilient infrastructure, reflecting a technical and forward-looking approach to environmental challenges. Complementing this, the **School of Biological Engineering and Sciences** explored biotechnological and biological interventions for sustainability, including ecosystem restoration, marine conservation, bio-remediation, and environmental biotechnology, thereby linking scientific innovation with ecological preservation. The **School of Agriculture and Environmental Sciences** focused on sustainability in farming through seminars and workshops on agroecology, biodiversity, water and soil management, and climate change impacts—emphasizing the intersection of traditional practices and modern environmental ethics. In the **School of Education**, activities revolved around fostering environmental literacy, sustainable campus practices, and integrating sustainability across curricula, reinforcing the foundational role of education in building a culture of stewardship. The **School of Law and Constitutional Studies** addressed the legal frameworks supporting environmental protection through workshops on climate laws, environmental justice, impact assessments, and international legal cooperation—highlighting law's critical role in ecological governance. The **School of Business Studies & Entrepreneurship** integrated sustainability into entrepreneurship and corporate strategy through sessions on green technologies, circular economy, sustainable supply chains, and transparency in reporting, thus aligning profit-driven models with ecological responsibility. The **School of Ayurveda** contributed a culturally rooted approach by promoting sustainable herbal medicine, green clinic practices, and environmental ethics within the Ayurvedic industry, blending tradition with sustainability. Similarly, the **School of Pharmacy** explored eco-conscious pharmaceutical practices, including green manufacturing, waste management, and regulatory compliance, addressing the sector's environmental footprint. Lastly, the **School of Naturopathy and Yogic Sciences** championed sustainability through herbal sourcing, eco-friendly wellness products, and community-based environmental programs—integrating natural health with ecological advocacy. Together, these activities reflect a coherent, institution-wide initiative to embed environmental and sustainability principles across disciplines, ensuring future professionals are equipped to lead responsibly in a rapidly changing ecological landscape.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

SUMMARY SHEET OF THE ACTIVITIES CONDUCTED ON CROSS CUTTING ISSUES (PROFESSIONAL ETHICS)

The cross-cutting activities focused on **Professional Ethics** reveal a comprehensive institutional strategy to instill a strong ethical foundation across varied disciplines, preparing students and professionals to navigate complex moral landscapes in their respective fields. The **School of Engineering and Technology** led discussions on emerging ethical challenges in the digital and AI-driven era, including seminars on data privacy, autonomous technologies, and professional conduct, emphasizing engineers' responsibility to prioritize societal welfare over mere technological advancement. Similarly, the **School of Biological Engineering and Sciences** addressed pressing ethical concerns in cutting-edge biomedical fields, including genetic research, stem cell therapy, and personalized medicine, promoting a balance between innovation and moral accountability. The **School of Agriculture and Environmental Sciences** conducted sessions on ethical land use, GMOs, animal welfare, and integrity in agricultural research, aligning professional practice with ecological and social ethics. In the **School of Education**, ethical leadership, educational equity, and responsible use of educational technology were prioritized, alongside training on policy development and staff ethics—fostering a values-driven academic environment. The **School of Law and Constitutional Studies** tackled the legal profession's ethical complexities through sessions on judicial conduct, corporate law, cyber law, and environmental responsibility, reinforcing the principle of justice as a moral obligation. The **School of Business Studies & Entrepreneurship** focused on ethical leadership, governance, and fairness in business practices, with activities exploring unconscious bias, ethical dilemmas in finance and international business, and the impact of digital ethics in modern commerce. The **School of Ayurveda** contributed insights on ethical patient care, sustainable practices, and the ethical marketing of traditional medicine, recognizing the importance of trust and professionalism in holistic healthcare. The **School of Pharmacy** emphasized clinical trial ethics, pharmaceutical marketing conduct, AI usage, and telepharmacy practices—ensuring ethical consistency in patient-centered drug development and distribution. Lastly, the **School of Naturopathy and Yogic Sciences** focused on professional boundaries, digital ethics, and collaborative care standards in natural health and yoga practices. Collectively, these initiatives reflect a deep institutional commitment to cultivating ethical awareness, accountability, and principled decision-making as essential elements of professional excellence across all academic and vocational domains.

SHOBHIT UNIVERSITY GANGOH
REGISTRAR
Saharanpur (U.P.)

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Salient features of the curriculum for Bachelor of Technology (Computer Science & Engineering):

- Strong Foundation in Core Areas: Fundamental courses in Programming, Data Structures, Algorithms, Computer Networks, and Operating Systems.
- Advanced Computer Science Topics: Subjects like Artificial Intelligence, Machine Learning, Cloud Computing, and Big Data.
- Industry-Relevant Curriculum: Updated regularly to match current industry trends and technologies.
- Project-Based Learning: Focus on mini-projects and major projects to enhance problem-solving skills.
- Internship Opportunities: Mandatory internships in industries to gain real-world exposure.
- Elective Flexibility: Wide range of elective subjects like Cyber Security, Internet of Things (IoT), and Blockchain.
- Research Orientation: Opportunities for research through projects, seminars, and technical papers.
- Hands-on Practical Training: Extensive lab sessions in programming, networking, and software development.
- Entrepreneurship Support: Courses and activities promoting innovation and startups.
- Soft Skills Development: Communication skills, leadership training, and teamwork building.
- Interdisciplinary Learning: Open electives from allied fields such as electronics, management, and humanities.
- Certifications and Workshops: Tie-ups with organizations like Microsoft, Cisco, and AWS for certifications.
- Capstone Project: Final-year project integrating knowledge across subjects.
- Ethics and Social Responsibility: Courses on professional ethics and environmental studies.
- Global Exposure: Opportunities for student exchange programs, webinars, and guest lectures by international experts.

Salient features of the curriculum for Master of Technology (Computer Science & Engineering):

- Advanced Theoretical Foundations: Deep focus on theory of computation, advanced algorithms, and mathematical foundations of computer science.
- Specialization Options: Subjects like Artificial Intelligence, Data Science, Cyber Security, Cloud Computing, and Blockchain Technologies.
- Research-Driven Learning: Emphasis on research methodology, paper publication, and thesis work.
- Contemporary Technologies: Courses covering recent trends like Deep Learning, IoT, Quantum Computing, and Edge Computing.

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

- Hands-on Project Work: Multiple minor projects and a major dissertation fostering practical implementation skills.
- Industry Collaboration: Collaborative projects and internships with IT industries and research labs.
- Elective Diversity: Wide range of electives to allow customization of learning paths according to career goals.
- Focus on Innovation and Entrepreneurship: Encouragement for startup ideas, innovation cells, and incubation support.
- Professional Skill Development: Training in technical writing, presentations, and intellectual property rights (IPR).
- Interdisciplinary Approach: Courses encouraging knowledge integration across disciplines like management, electronics, and data analytics.
- Guest Lectures and Workshops: Frequent sessions by industry leaders and academic experts to bridge the gap between academia and industry.
- Laboratory Excellence: Advanced labs equipped for research in networking, security, AI, and big data analytics.
- Thesis/Dissertation Requirement: A full-scale research project or thesis submission as part of the degree requirement.
- Global Standards Alignment: Curriculum aligned with international education frameworks and emerging global technology standards.
- Ethical and Societal Perspective: Subjects focusing on professional ethics, societal impact of technology, and sustainable computing practices.

Salient features of the curriculum for Bachelor of Computer Applications (BCA):

- Strong Programming Foundation: Core focus on languages like C, C++, Java, Python, and JavaScript.
- Web Development Skills: Courses on front-end and back-end technologies, HTML, CSS, PHP, and web frameworks.
- Database Management Systems: Comprehensive study of databases like MySQL, Oracle, and NoSQL technologies.
- Computer Networks and Security: Basic understanding of networking concepts and cyber security practices.
- Software Engineering Principles: Training in software development life cycle (SDLC), Agile methodologies, and project management.
- Mobile Application Development: Introduction to building apps for Android and iOS platforms.
- Data Structures and Algorithms: Strong emphasis on problem-solving and logical thinking.
- Practical Exposure: Regular practical sessions, coding labs, and project-based learning.
- Mini Projects and Major Projects: Mandatory projects to apply theoretical knowledge to real-world problems.
- Business and IT Integration: Courses that blend IT with business processes and e-commerce.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

- Soft Skills Development: Communication skills, teamwork, and leadership training modules.
- Internship Opportunities: Industry internships to provide hands-on experience and industry insights.
- Electives and Specializations: Flexibility to choose electives like cloud computing, AI basics, and digital marketing.
- Entrepreneurship Development: Encouragement for startup initiatives through workshops and competitions.
- Ethics and Professionalism: Courses on IT ethics, cyber laws, and societal impact of technology.

Salient features of the curriculum for Master of Computer Applications (MCA):

- Advanced Programming Skills: In-depth learning of languages such as Java, Python, C#, and advanced frameworks.
- Full Stack Development: Training in both front-end and back-end development, including MERN/MEAN stacks.
- Database Expertise: Mastery over relational (SQL) and non-relational (NoSQL) database systems.
- Cloud and Virtualization Technologies: Exposure to AWS, Microsoft Azure, and cloud-based application development.
- Software Development Methodologies: Practical understanding of Agile, Scrum, and DevOps practices.
- Data Science and Analytics: Courses on Big Data, Data Mining, Machine Learning, and Visualization tools.
- Cyber Security and Ethical Hacking: Training in securing applications, networks, and ethical practices.
- Mobile and Web Application Development: Advanced skills in creating scalable mobile apps and dynamic websites.
- AI and Machine Learning Fundamentals: Foundational courses in AI, Deep Learning, and related technologies.
- Industry-Oriented Projects: Semester-long projects that solve real-world industry problems.
- Research and Development Focus: Opportunities to work on innovative projects and publish technical papers.
- Internship/Industrial Training: Compulsory industry internship programs to bridge academics and practice.
- Soft Skills and Professional Training: Workshops to develop communication, leadership, and team management skills.
- Entrepreneurship and Innovation Support: Mentoring for startups, hackathons, and incubation center support.
- Ethics, Sustainability, and Social Responsibility: Courses integrating legal, ethical, and environmental perspectives in IT.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Salient features of the curriculum for Bachelor of Science (Microbiology, Honors):

- Core Microbiology Foundations: Comprehensive study of general microbiology, microbial physiology, and genetics.
- Medical and Clinical Microbiology: In-depth exploration of pathogenic microorganisms and infectious diseases.
- Environmental and Agricultural Microbiology: Study of microbes in soil, water, and their role in agriculture and bioremediation.
- Industrial Microbiology: Focus on microbial applications in industries like pharmaceuticals, food, and beverages.
- Molecular Biology and Genetic Engineering: Basics of DNA technology, cloning, and genetic manipulation.
- Immunology: Detailed study of immune systems, immunopathology, and vaccine development.
- Virology and Mycology: Specialization in viruses and fungi, their classification, and importance.
- Microbial Biotechnology: Courses covering microbial products, bioprocess technology, and fermentation.
- Practical Laboratory Training: Extensive hands-on experience with culturing, staining, and identifying microorganisms.
- Research Methodology and Scientific Writing: Training in designing experiments, data analysis, and writing research papers.
- Elective Courses and Specializations: Flexibility to choose electives such as bioinformatics, epidemiology, or food microbiology.
- Fieldwork and Industrial Visits: Exposure to industrial plants, research labs, and environmental microbiology projects.
- Internships and Research Projects: Opportunities for internships and short-term projects in reputed institutions and industries.
- Soft Skills and Communication Development: Training in scientific communication, presentations, and teamwork.
- Ethics and Biosafety Training: Emphasis on ethical research practices, biosafety standards, and environmental sustainability.

Salient features of the curriculum for Master of Science (Microbiology):

- Advanced Microbial Physiology and Metabolism: In-depth study of microbial life processes and energy generation.
- Molecular Microbiology: Detailed focus on molecular mechanisms in microbes including gene expression and regulation.
- Medical Microbiology and Immunology: Comprehensive understanding of human pathogens, immune response, and disease mechanisms.
- Industrial and Environmental Microbiology: Application of microbes in industries, waste management, and environmental sustainability.

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

- Microbial Genetics and Genomics: Study of genetic mapping, genome sequencing, and genetic engineering techniques.
- Virology and Mycology Specialization: Advanced courses on viruses, fungi, and their clinical and industrial significance.
- Microbial Biotechnology and Bioinformatics: Use of microbes in biotechnological applications and computational analysis of biological data.
- Research-Oriented Learning: Strong emphasis on dissertation work, research methodology, and scientific paper writing.
- Hands-on Advanced Laboratory Training: Practical experience with modern instrumentation like PCR, ELISA, electrophoresis, and spectrophotometry.
- Elective Specializations: Options to specialize in areas like Pharmaceutical Microbiology, Food Microbiology, or Environmental Biotechnology.
- Seminar and Conference Participation: Encouragement to attend, present, and publish in national and international conferences.
- Industrial Training and Internships: Exposure to real-world industrial or research settings through compulsory internships.
- Ethical Practices and Biosafety Training: Focus on biosafety measures, laboratory ethics, and responsible research conduct.
- Interdisciplinary Approach: Integration with subjects like biochemistry, molecular biology, and environmental sciences.
- Career Readiness and Soft Skills Development: Courses and workshops to prepare students for research, teaching, clinical, and industrial careers.

Salient features of the curriculum for Bachelor of Business Administration (BBA):

- Comprehensive Business Foundation: Core subjects in management, marketing, finance, human resources, and operations.
- Entrepreneurship Development: Courses and projects that encourage innovation, startups, and business planning.
- Managerial Skill Building: Focus on leadership, decision-making, problem-solving, and critical thinking.
- Industry-Oriented Curriculum: Regularly updated syllabus aligned with current business trends and practices.
- Internships and Industry Exposure: Mandatory internships providing real-world business experience.
- Financial Literacy and Accounting Skills: Training in accounting, financial management, and investment analysis.
- Marketing and Digital Strategy: Emphasis on modern marketing techniques, including social media and digital marketing.
- Business Analytics and Data Interpretation: Introduction to business statistics, data analysis, and business intelligence tools.
- Global Business Perspective: Courses covering international business, trade policies, and global market strategies.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

- Practical Case Studies and Simulations: Real-time business problem-solving through case analysis and management games.
- Soft Skills and Communication Training: Modules on public speaking, presentation skills, negotiation, and business etiquette.
- Ethics and Corporate Social Responsibility: Focus on ethical leadership and sustainable business practices.
- Elective Flexibility: Wide choice of electives like e-commerce, supply chain management, or hospitality management.
- Research Projects and Reports: Final-year research project to develop analytical and report-writing skills.
- Workshops, Seminars, and Guest Lectures: Regular interactions with industry experts and entrepreneurs for practical insights.

Salient features of the curriculum for Master of Business Administration (MBA):

- Advanced Management Education: In-depth knowledge of strategic management, leadership, and organizational behavior.
- Specialization Opportunities: Wide range of specializations such as Finance, Marketing, Human Resources, Operations, Business Analytics, and International Business.
- Case Study-Based Learning: Real-world case studies from top companies to enhance analytical and decision-making skills.
- Industry-Integrated Curriculum: Syllabus designed in consultation with industry experts to meet contemporary business needs.
- Internship and Live Projects: Mandatory summer internships and live industry projects to gain practical exposure.
- Global Business Perspective: Courses on global economics, international marketing, and cross-cultural management.
- Entrepreneurship and Innovation Focus: Encouragement for entrepreneurial thinking through incubation centers and startup projects.
- Data Analytics and Technology Integration: Emphasis on data-driven decision-making using tools like Excel, Tableau, R, and Python.
- Finance and Risk Management: Advanced courses in financial markets, portfolio management, and risk analysis.
- Marketing Strategies and Digital Marketing: Training on brand management, consumer behavior, and digital marketing platforms.
- Leadership Development Programs: Workshops and seminars focused on grooming future business leaders.
- Corporate Social Responsibility and Business Ethics: Integration of ethical decision-making and sustainable business practices.
- Soft Skills and Personality Development: Special sessions on communication, negotiation, teamwork, and leadership.
- Global Exposure Programs: Options for international internships, student exchange programs, and global immersion projects.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

- Capstone Projects and Dissertation: Comprehensive final projects solving real business challenges.

Salient features of the curriculum for Bachelor of Naturopathy and Yogic Sciences (BNYS):

- Integrated Study of Naturopathy and Yoga: Comprehensive understanding of natural healing systems and yogic practices.
- Basic Medical Sciences Foundation: Strong grounding in Anatomy, Physiology, Biochemistry, Pathology, and Microbiology.
- Principles of Naturopathy: Study of natural therapies including diet therapy, hydrotherapy, mud therapy, and massage therapy.
- Advanced Yoga Training: In-depth learning of Asanas, Pranayama, Meditation, and Yogic Philosophy.
- Clinical Diagnosis and Practice: Training in physical examination, diagnosis, and naturopathic clinical methods.
- Diet and Nutrition Studies: Emphasis on therapeutic nutrition, meal planning, and dietetics in health and disease.
- Modern Medical Sciences Interface: Integration of relevant aspects of modern medicine for holistic patient management.
- Mind-Body Medicine: Courses focusing on psychosomatic disorders and mind-body healing techniques.
- Research Methodology and Biostatistics: Training in research design, data analysis, and evidence-based practices.
- Hospital Management and Administration: Basics of managing naturopathy hospitals, wellness centers, and health resorts.
- Community Medicine and Public Health: Public health education, preventive medicine, and promotion of wellness practices.
- Internship and Clinical Training: Compulsory one-year rotatory internship in naturopathy hospitals and wellness centers.
- Ethics and Professional Practice: Courses covering legal, ethical, and regulatory aspects of naturopathy and yoga practice.
- Alternative Therapies Exposure: Basic introduction to other complementary therapies like Acupuncture and Ayurveda.
- Personality and Life Skill Development: Training in communication, counseling, leadership, and professional ethics.

Salient features of the curriculum for Bachelor of Pharmacy (B. Pharm):

- Comprehensive Pharmaceutical Education: Strong foundation in pharmaceutical sciences including Pharmaceutics, Pharmacology, Medicinal Chemistry, and Pharmacognosy.
- Understanding of Drug Development: In-depth study of drug discovery, formulation, testing, and regulatory approval.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

- Pharmaceutical Chemistry and Analysis: Focus on chemical properties, synthesis, and analysis of drugs.
- Pharmacology and Toxicology: Detailed study of drug actions, side effects, and safe dosage mechanisms.
- Pharmacognosy and Phytochemistry: Learning about medicinal plants, natural products, and herbal drug technology.
- Pharmacy Practice and Clinical Pharmacy: Training in hospital pharmacy, clinical pharmacy, and patient care.
- Industrial and Manufacturing Pharmacy: Exposure to drug manufacturing processes, quality control, and industrial practices.
- Human Anatomy and Physiology: Understanding the structure and function of the human body related to drug action.
- Regulatory Affairs and Intellectual Property Rights (IPR): Education on drug laws, patents, and pharmaceutical ethics.
- Biopharmaceutics and Pharmacokinetics: Study of drug absorption, distribution, metabolism, and excretion.
- Hospital and Community Pharmacy Training: Practical knowledge about hospital setups, prescriptions, and community pharmacy operations.
- Internships and Industrial Training: Compulsory training in pharmaceutical industries, hospitals, or regulatory agencies.
- Research Methodology and Project Work: Focus on scientific research, project development, and experimental skills.
- Soft Skills and Communication Training: Development of professional communication, documentation, and interpersonal skills.
- Entrepreneurial Development: Encouragement towards entrepreneurship through knowledge of pharma business management.

Salient features of the curriculum for Master of Pharmacy (Pharmacology):

- Advanced Study of Drug Action: Delves deeply into the mechanisms by which drugs interact with biological systems at molecular, cellular, and organismal levels.
- Emphasis on Pharmacokinetics and Pharmacodynamics: Provides a comprehensive understanding of drug absorption, distribution, metabolism, excretion (ADME), and the relationship between drug concentration and its effects.
- Exploration of Toxicology: Covers the adverse effects of drugs and other chemicals, including mechanisms of toxicity, risk assessment, and management of poisoning.
- Focus on Research Methodology: Equips students with the skills to design, conduct, analyze, and interpret pharmacological research studies.
- Integration of Modern Techniques: Incorporates contemporary techniques in pharmacology, such as molecular biology, genomics, proteomics, and bioinformatics.
- Study of Specialized Areas: Often includes elective courses allowing specialization in areas like neuropharmacology, cardiovascular pharmacology, immune pharmacology, or clinical pharmacology.
- Emphasis on Drug Discovery and Development: Explores the processes involved in identifying, developing, and evaluating new drug candidates.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

- Understanding of Regulatory Affairs: Provides insights into the legal and ethical aspects of drug development, approval, and marketing.
- Clinical Pharmacology and Therapeutics: Bridges the gap between basic pharmacology and clinical practice, focusing on rational drug use and patient management.
- Pharmacogenomics and Personalized Medicine: Explores how genetic variations influence drug response and the potential for tailoring drug therapy to individual patients.
- Biostatistics and Data Analysis: Develops skills in applying statistical methods to analyze pharmacological data and draw meaningful conclusions.
- Practical Laboratory Training: Includes hands-on experiments to reinforce theoretical concepts and develop practical skills in various pharmacological techniques.
- Dissertation or Research Project: Culminates in an independent research project, allowing students to apply their knowledge and contribute to the field.
- Focus on Pharmaceutical Industry Relevance: Often incorporates aspects relevant to the pharmaceutical industry, such as drug manufacturing, quality control, and marketing.
- Ethical Considerations in Pharmacology: Addresses the ethical implications of drug research, development, and use.

Salient features of the curriculum for a Master of Pharmacy (Pharmaceutics):

1. Core Courses in Pharmaceutics: Focus on drug formulation, delivery systems, and the physical chemistry of pharmaceutical systems.
2. Advanced Drug Delivery Systems: Study of novel drug delivery technologies like nanotechnology, transdermal systems, and targeted drug delivery.
3. Pharmaceutical Biotechnology: Covers biopharmaceuticals, gene therapy, and biotechnology-based drug formulations.
4. Pharmacokinetics and Pharmacodynamics: Detailed understanding of the absorption, distribution, metabolism, and excretion (ADME) of drugs.
5. Industrial Pharmacy: Training in pharmaceutical manufacturing processes, quality control, and regulatory aspects.
6. Dosage Form Design: In-depth learning of various dosage forms (e.g., tablets, injections, creams) and their design principles.
7. Biopharmaceutics: Studies the relationship between the physical and chemical properties of drugs and their bioavailability and therapeutic efficacy.
8. Pharmaceutical Analysis: Advanced techniques for the analysis and quality control of pharmaceutical products.
9. Pharmaceutical Regulatory Affairs: Knowledge of global pharmaceutical regulations, including FDA and ICH guidelines.
10. Clinical Pharmacy and Therapeutics: Interaction with clinical settings to understand drug therapy management and patient care.
11. Pharmacology: Advanced study of drug interactions, side effects, and therapeutic uses.
12. Research Methodology: Methods for designing, conducting, and analyzing pharmaceutical research, with a focus on experimental and clinical trials.
13. Pharmaceutical Technology: Exploration of the latest technological advancements in drug formulation and manufacturing processes.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

14. Pharmacoeconomics: Study of the cost-effectiveness and economic aspects of pharmaceutical products and healthcare.
15. Elective Specializations: Options to specialize in areas such as cosmetic formulations, regulatory affairs, or pharmaceutical quality assurance.

Salient features of the curriculum for Master of Pharmacy (Pharmaceutical Chemistry):

1. Advanced Medicinal Chemistry: In-depth study of the chemical properties, design, and synthesis of pharmaceutical agents.
2. Organic Chemistry in Pharmaceuticals: Advanced topics in organic chemistry, focusing on the synthesis and modification of drug molecules.
3. Pharmacological Chemistry: The study of how chemical compounds interact with biological systems to produce therapeutic effects.
4. Analytical Techniques in Pharmaceutical Chemistry: Training in methods like chromatography, spectroscopy, and mass spectrometry for drug analysis.
5. Drug Design and Development: Focus on rational drug design, computational chemistry, and structure-activity relationships (SAR).
6. Pharmaceutical Formulation Chemistry: Understanding the chemistry behind different drug formulations, such as tablets, syrups, and injections.
7. Medicinal Plants and Natural Products: Study of natural compounds from plants, their chemistry, and their potential therapeutic applications.
8. Pharmaceutical Quality Control and Assurance: Emphasis on quality standards, regulatory guidelines, and methods for ensuring the purity and stability of pharmaceutical products.
9. Pharmacokinetics and Drug Metabolism: Detailed exploration of how drugs are absorbed, metabolized, and eliminated by the body.
10. Chemical Pharmacology: Study of chemical agents that interact with biological systems to provide therapeutic or adverse effects.
11. Biotechnology and Biopharmaceutical Chemistry: Introduction to the chemistry of biopharmaceuticals, including biologics, biosimilars, and monoclonal antibodies.
12. Toxicology: Understanding the chemical basis of toxic substances and their effects on human health.
13. Pharmacodynamics and Drug Action: Focus on the chemical basis of drug interactions with receptors and enzymes in the body.
14. Research Methodology and Scientific Writing: Training in research design, data analysis, and writing scientific research papers and theses.
15. Elective Specializations: Opportunities to specialize in areas such as pharmaceutical analysis, clinical chemistry, or chemical regulation and safety.

Salient features of the curriculum for a Bachelor of Science (Agriculture, Honors):

1. Foundations of Agricultural Science: Introduction to the basic principles of agriculture, including soil science, crop production, and plant biology.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

2. Soil and Water Management: Study of soil properties, irrigation techniques, water conservation methods, and sustainable farming practices.
3. Crop Production and Management: Detailed learning of crop growth, pest management, fertilization, and harvesting techniques for various crops.
4. Horticulture: Study of the cultivation and management of fruits, vegetables, flowers, and ornamental plants.
5. Agricultural Economics: Analysis of agricultural markets, pricing, rural development, and the economic aspects of farming and agribusiness.
6. Plant Protection and Pest Management: Techniques for managing plant diseases, pests, and weeds using integrated pest management (IPM) and organic practices.
7. Genetics and Plant Breeding: In-depth study of plant genetics, crop improvement methods, and the application of biotechnology in breeding high-yield crops.
8. Agri-Business Management: Focus on the management and commercialization of agricultural products, including supply chain management, marketing, and financial planning.
9. Agricultural Biotechnology: Introduction to biotechnological tools and techniques used in the improvement of crops and livestock, including genetic engineering.
10. Animal Husbandry: Study of livestock farming, including the care, breeding, and management of animals such as cattle, poultry, and sheep.
11. Sustainable Agriculture and Organic Farming: Principles of sustainable farming, soil health, and the benefits of organic farming practices for environmental conservation.
12. Agricultural Engineering: Training in agricultural machinery, irrigation systems, and the design of tools and equipment for farm operations.
13. Agricultural Extension and Rural Development: Focus on communication and education techniques for transferring agricultural knowledge to farmers and communities.
14. Climate Change and Agriculture: Study of how climate change impacts agriculture and the strategies to mitigate its effects on crop and livestock production.
15. Field Training and Research Projects: Hands-on experience through field visits, internships, and research projects in various agricultural sectors, preparing students for practical challenges.

These features provide a comprehensive understanding of agriculture from its scientific, economic, and practical perspectives, preparing graduates for diverse roles in the agricultural industry.

Salient features of the curriculum for the Bachelor of Arts and Bachelor of Legislative Law (BA LLB):

1. Foundation of Law: Introduction to the basic principles of law, legal systems, and the role of law in society.
2. Constitutional Law: Study of the Indian Constitution, its provisions, and its impact on the governance and legal system in India.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

3. Legal Research and Writing: Training in legal research methodology, legal writing, and citation techniques, preparing students for effective legal practice.
4. Criminal Law: In-depth study of the Indian Penal Code (IPC), criminal procedure, and the principles of criminal justice.
5. Family Law: Understanding of personal laws related to marriage, divorce, inheritance, adoption, and property rights within different communities in India.
6. Contracts and Commercial Law: Detailed exploration of contract law, including formation, enforcement, and breach of contracts, and principles of business law.
7. Torts and Consumer Protection: Study of civil wrongs (torts), negligence, defamation, and laws related to consumer protection.
8. International Law: Examination of public international law, treaties, conventions, and the rights and obligations of nations.
9. Environmental Law: Understanding the legal frameworks that address environmental protection, natural resource management, and sustainable development.
10. Human Rights Law: Focus on international human rights standards, Indian human rights law, and their application in various legal contexts.
11. Labor and Industrial Law: Study of labor rights, employment laws, industrial relations, trade unions, and laws governing workplace safety and welfare.
12. Legal Theory and Jurisprudence: Introduction to philosophical foundations of law, legal positivism, natural law theory, and critical legal studies.
13. Alternative Dispute Resolution (ADR): Training in mediation, arbitration, conciliation, and other methods of resolving legal disputes outside of courts.
14. Political Science and Public Administration: Subjects related to the understanding of political systems, governance, public policy, and administration.
15. Internship and Moot Court: Practical exposure through internships in law firms, courts, NGOs, and participation in moot court competitions to build advocacy and litigation skills.

This curriculum aims to provide students with a strong theoretical and practical foundation in both legal knowledge and its application in various spheres of life, preparing them for careers in law, governance, and legal advisory roles.

Salient features of the curriculum for the Bachelor of Legislative Law (LLB):

1. Introduction to Law: Foundational understanding of law, legal systems, and the role of law in society and governance.
2. Constitutional Law: Study of the Indian Constitution, its fundamental rights, duties, and the structure of government, including the separation of powers.
3. Contract Law: Detailed exploration of the law governing contracts, including formation, performance, breach, and remedies for contract violations.
4. Criminal Law: Study of criminal offenses, defenses, criminal procedure, and the penal system, with a focus on the Indian Penal Code (IPC).
5. Civil Law: Focus on non-criminal law, including torts, contracts, property law, and family law, addressing disputes between individuals and entities.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

6. Jurisprudence: Examination of the theory and philosophy of law, including legal positivism, natural law theory, and critical legal studies.
7. Legal Research and Writing: Training in the skills of legal research, writing, and drafting legal documents, case analysis, and statutory interpretation.
8. Family Law: Understanding personal laws related to marriage, divorce, inheritance, adoption, and property rights in different communities.
9. Property Law: Study of laws governing property ownership, rights, transfer, and registration under the Indian legal framework.
10. Labour and Employment Law: Exploration of the rights of workers, labor relations, industrial disputes, trade unions, and employment regulations.
11. Environmental Law: Study of laws related to the protection of the environment, including conservation, pollution control, and sustainability.
12. Administrative Law: Focus on the functioning of administrative bodies, rules, regulations, and public administration with an emphasis on executive power.
13. Human Rights Law: Study of international human rights standards, treaties, conventions, and their enforcement in Indian and global contexts.
14. Alternative Dispute Resolution (ADR): Introduction to methods such as mediation, arbitration, and conciliation as alternatives to litigation in resolving disputes.
15. Moot Court and Practical Training: Hands-on learning through moot court exercises, internships, and clinical legal education to develop advocacy skills and practical legal knowledge.

These features provide a comprehensive understanding of law in both theoretical and practical dimensions, preparing students for careers in law, legal practice, and various legal advisory roles.

Salient features of the curriculum for Bachelor of Education (B.Ed.):

1. Foundations of Education: Introduction to the basic concepts of education, its philosophy, objectives, and the role of education in social development.
2. Educational Psychology: Study of the psychological principles of learning and development, including cognitive, emotional, and social aspects of learners.
3. Pedagogy and Teaching Methodology: Detailed exploration of effective teaching strategies and methods for diverse subjects and classroom settings.
4. Curriculum and Instruction: Study of curriculum design, development, and evaluation, focusing on instructional planning and delivery techniques.
5. Educational Technology: Introduction to the use of technology in education, including e-learning tools, multimedia, and digital classrooms.
6. Inclusive Education: Focus on inclusive practices for students with disabilities or special needs, promoting equity and diversity in the classroom.
7. Assessment and Evaluation: Study of various assessment methods, tools, and techniques to measure student learning, progress, and performance.
8. Sociology of Education: Understanding the impact of social, cultural, and economic factors on education, and how education shapes society.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

9. School Management and Leadership: Study of the administrative and leadership aspects of schools, including resource management, policy-making, and organizational behavior.
10. Values and Ethics in Education: Exploration of the ethical responsibilities of educators, focusing on professionalism, moral values, and teacher-student relationships.
11. Pedagogical Content Knowledge: In-depth knowledge and teaching strategies specific to various subjects like science, mathematics, languages, social studies, etc.
12. Action Research in Education: Encouragement of reflective practice and the use of research to improve teaching methods, classroom management, and educational outcomes.
13. Health and Physical Education: Focus on promoting physical well-being and health education in schools, including the importance of physical fitness.
14. Internship/Practical Teaching: Hands-on teaching experience through internships or student-teaching programs in real classroom settings, fostering practical skills and classroom management.
15. Educational Leadership and Policy: Study of educational policies, reforms, and leadership practices that influence educational institutions and teaching practices.

These features ensure that students are equipped with the knowledge, skills, and practical experience needed to become effective educators and leaders in schools.

Salient features of the curriculum for Bachelor of Ayurvedic Medicine and Surgery (BAMS):

1. Introduction to Ayurveda: Basic principles of Ayurveda, its history, and its philosophical foundations in maintaining health and preventing disease.
2. Anatomy and Physiology: Detailed study of human anatomy, physiology, and the interrelation of body systems from an Ayurvedic perspective.
3. Basic Principles of Ayurveda: Understanding of Tridosha (Vata, Pitta, Kapha), Panchamahabhutas (five elements), and their role in maintaining health and disease.
4. Ayurvedic Pharmacology (Dravyaguna): Study of medicinal plants, their properties, preparation methods, and therapeutic uses according to Ayurveda.
5. Sanskrit and Ayurvedic Literature: Learning Sanskrit as it is crucial for reading ancient Ayurvedic texts and scriptures (e.g., Charaka Samhita, Sushruta Samhita).
6. Ayurvedic Dietetics (Pathya and Apathya): Understanding the role of diet and nutrition in Ayurveda, with a focus on food as medicine.
7. Rasashastra (Pharmacy): Study of alchemical preparations, processing of metals and minerals for medicinal use, and their therapeutic effects.
8. Shalya Tantra (Surgery): Comprehensive study of surgical techniques in Ayurveda, including minor and major surgeries, suturing, and wound management.
9. Shalakya Tantra (ENT and Ophthalmology): Ayurvedic treatments for diseases related to the eyes, ears, nose, throat, and dental care.
10. Panchakarma (Detoxification Therapies): In-depth understanding of detoxification techniques like Vamana (vomiting), Virechana (purging), and Basti (enema) for balancing doshas.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

11. Prakriti and Vikriti (Constitutional and Disease Understanding): Study of individual body constitutions (Prakriti) and how imbalances (Vikriti) lead to diseases.
12. Ayurvedic Pediatrics (Kaumarbhritya): Focus on Ayurvedic approaches for treating children's health conditions, including growth and development.
13. Ayurvedic Gynaecology and Obstetrics (Stri Roga and Prasuti Tantra): Understanding Ayurvedic treatments for women's health, pregnancy, childbirth, and gynecological disorders.
14. Preventive and Social Medicine: Emphasis on preventive health practices, hygiene, and community health from an Ayurvedic perspective.
15. Clinical Practice and Internship: Hands-on experience in Ayurvedic hospitals or clinics, where students diagnose and treat patients under expert supervision, applying theoretical knowledge in real-world settings.

This curriculum equips students with a solid foundation in both theoretical and practical aspects of Ayurveda, preparing them to become skilled Ayurvedic doctors capable of providing holistic care.

Salient features of the curriculum for Master of Surgery (Shalya Tantra):

1. Advanced Surgical Techniques: In-depth study of advanced surgical methods and procedures specific to Ayurvedic surgery, including the preparation and handling of surgical instruments.
2. Surgical Anatomy: Detailed understanding of human anatomy relevant to surgical practices, with a focus on anatomical structures involved in surgery.
3. Principles of Shalya Tantra (Ayurvedic Surgery): Comprehensive study of Ayurvedic principles of surgery, including surgical ethics, patient management, and postoperative care.
4. Suturing and Wound Management: Techniques for stitching, wound care, and healing, including both traditional Ayurvedic methods and modern surgical interventions.
5. Trauma and Emergency Surgery: Training in emergency procedures, trauma management, and first-aid techniques from an Ayurvedic perspective.
6. Minor and Major Surgical Procedures: Learning and performing minor and major surgeries, including incision and drainage, excision of tumors, and laparotomy.
7. Panchakarma and Surgical Support: Integration of Panchakarma therapies (e.g., Vamana, Virechana) with surgical practices to enhance recovery and detoxification.
8. Ayurvedic Anesthesia: Study of traditional Ayurvedic methods of anesthesia (e.g., using herbal drugs) and their application during surgeries.
9. Shalyatantra in Hemorrhoids and Fistula Treatment: Specific techniques for managing anorectal disorders, such as hemorrhoids, fistulas, and fissures, through surgery.
10. Orthopedic and Musculoskeletal Surgery: Ayurvedic approaches to treating fractures, dislocations, and musculoskeletal injuries, including bone-setting and joint therapies.
11. Management of Wound Infections and Complications: Knowledge of infection control and Ayurvedic herbal solutions for preventing and managing surgical wound infections.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

12. Aesthetic and Cosmetic Surgery: Training in surgeries aimed at improving the appearance, such as scar revisions, cosmetic skin surgeries, and reconstructive procedures.
13. Pediatric Surgery: Specialized training in surgical practices for pediatric patients, with a focus on age-appropriate techniques and treatments.
14. Research Methodology and Evidence-Based Practices: Training in research methods, clinical trials, and the application of evidence-based medicine in Ayurvedic surgery.
15. Clinical Internship and Practical Training: Hands-on experience through internships in hospitals, clinics, or surgical centers where students actively participate in surgeries and patient care under supervision.

These features ensure that students gain the necessary skills, knowledge, and practical experience to become proficient Ayurvedic surgeons with a thorough understanding of both traditional and modern surgical practices.

Salient features of the curriculum for Doctor of Medicine (Kayachikitsa):

1. Foundations of Kayachikitsa: Deep dive into the principles and practices of Kayachikitsa, the branch of Ayurveda focused on internal medicine, diagnosis, and treatment of diseases.
2. Ayurvedic Pathology (Vikruti Vigyana): Study of the nature of diseases, their causes, and the pathological processes as understood through the lens of Ayurveda.
3. Tridosha Theory and Disease Management: Detailed understanding of the Tridosha system (Vata, Pitta, Kapha) and its role in the onset, diagnosis, and treatment of diseases.
4. Diagnostic Techniques in Ayurveda: Training in traditional diagnostic tools such as Nadi (pulse diagnosis), Darshan (visual inspection), Sparshan (touch diagnosis), and Prashna (patient history).
5. Pharmacology (Dravyaguna): In-depth study of medicinal plants, their therapeutic properties, dosage forms, and clinical applications in treating various diseases.
6. Clinical Medicine and Disease Management: Comprehensive learning of the diagnosis, treatment, and management of various diseases from an Ayurvedic perspective, including chronic diseases, metabolic disorders, and infectious diseases.
7. Panchakarma and Detoxification: Study of detoxification therapies like Vamana, Virechana, and Basti, and their use in treating chronic illnesses, rejuvenation, and disease prevention.
8. Ayurvedic Rejuvenation and Anti-aging Therapies: Exploration of Ayurvedic treatments aimed at enhancing vitality, slowing down aging, and promoting overall well-being.
9. Immunology and Preventive Medicine: Understanding of the immune system through Ayurvedic concepts and approaches for preventing disease through lifestyle modifications, diet, and herbal interventions.
10. Psychosomatic Disorders (Manas Roga): Study of mental health issues, their impact on physical health, and Ayurvedic treatments for stress, anxiety, depression, and other psychosomatic conditions.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

11. Geriatric and Palliative Care: Focus on managing health conditions in the elderly, including geriatric care, end-of-life care, and improving the quality of life in terminally ill patients.
12. Ayurvedic Dietetics and Lifestyle Management: Emphasis on the importance of diet and lifestyle in maintaining health, preventing disease, and managing chronic conditions according to Ayurvedic principles.
13. Integrative Medicine: Incorporating modern medical practices with traditional Ayurvedic therapies for a holistic approach to patient care, emphasizing evidence-based treatment.
14. Research Methodology in Ayurveda: Focus on clinical research, evidence generation, and the application of modern scientific methods to validate Ayurvedic practices and therapies.
15. Clinical Internship and Patient Management: Hands-on experience in treating patients under supervision in hospitals, Ayurvedic centers, or clinics, where students apply their knowledge in real-world scenarios.

This curriculum aims to provide students with a deep understanding of Ayurvedic internal medicine, combining traditional knowledge with modern medical practices to address the holistic needs of patients.

Salient features of the curriculum for Doctor of Medicine (Kirya Sharir):

1. Introduction to Kirya Sharir (Physiology in Ayurveda): Understanding the Ayurvedic perspective on human physiology, including bodily functions and the dynamics of health and disease.
2. Concept of Srotas (Channels) and Doshas: Study of the concept of Srotas (bodily channels) and their relationship with the Tridoshas (Vata, Pitta, Kapha) in maintaining health and causing disease.
3. Prakriti (Constitution) and Vikriti (Imbalance): Understanding the body constitution (Prakriti) and imbalances (Vikriti) through Ayurvedic principles to determine health conditions and treatment strategies.
4. Agni (Digestive Fire): In-depth study of Agni, its importance in digestion, metabolism, and overall health, and the consequences of Agni disturbances in disease manifestation.
5. Ayurvedic Physiology of the Body's Systems: Detailed exploration of the physiology of various systems (e.g., cardiovascular, respiratory, digestive) as per Ayurveda and how they function in harmony.
6. Dynamic Interaction of Mind and Body: Study of the psychosomatic connection between the mind and body and its impact on overall health and disease in Ayurveda.
7. Ayurvedic Concepts of Ojas, Tejas, and Prana: Learning about the vital forces that govern strength, immunity, and vitality in the human body, and their role in maintaining health.
8. Sanchaya, Prakopa, Prasara, and Sthanasamsraya: Study of the four stages of disease progression as per Ayurveda, including the accumulation, aggravation, and spreading of doshas.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

9. Physiological Effects of Panchakarma Therapies: Examination of how detoxification therapies like Vamana, Virechana, and Basti affect the body's physiological systems and contribute to healing.
10. Immunology and Ayurvedic Concepts of Rakta: Understanding the Ayurvedic view of blood (Rakta) and its role in the body's immunity and the pathogenesis of various diseases.
11. Regulation of Homeostasis: Focus on the balance of bodily fluids, temperature regulation, and the maintenance of homeostasis through Ayurvedic principles.
12. Ayurvedic Approach to Aging and Rejuvenation: Study of the Ayurvedic process of aging (Jara) and the rejuvenation (Rasayana) therapies designed to maintain youth and vitality.
13. Pathophysiology of Disease According to Ayurveda: In-depth exploration of how various diseases manifest in the body, including the effects on bodily systems and the role of doshas in disease pathology.
14. Applied Anatomy and Physiology in Clinical Practice: Application of Ayurvedic physiology to clinical practices, diagnosis, and treatment of diseases, emphasizing the integration of anatomy and physiological understanding.
15. Research Methodology in Kirya Sharir: Focus on evidence-based Ayurvedic research, including the study of clinical trials, research on physiological processes, and validation of traditional Ayurvedic concepts in modern scientific terms.

These features provide a comprehensive understanding of Ayurvedic physiology, health, and disease management from both theoretical and practical perspectives, helping practitioners address patient health holistically.

Salient features of the curriculum for Doctor of Medicine (Ayurveda Samhita & Siddhant):

1. Foundational Ayurvedic Texts (Samhitas): Study of key ancient Ayurvedic texts, including *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridayam*, which form the basis of Ayurvedic knowledge.
2. Ayurvedic Principles and Philosophy: Exploration of the core Ayurvedic principles, including the Tridosha system (Vata, Pitta, Kapha), the concept of Panchamahabhutas (five elements), and their application in health and disease.
3. Ayurvedic Methodology (Siddhanta): Understanding of the fundamental theories and methods (Siddhanta) in Ayurveda, such as Prakriti (constitution), Vikriti (imbalance), and Agni (digestive fire), and their role in diagnosis and treatment.
4. Etiology and Pathogenesis: Study of the causes (Nidana) and mechanisms of disease development in Ayurveda, including the pathogenesis of different diseases from a classical Ayurvedic perspective.
5. Ayurvedic Diagnosis and Prognosis: Examination of diagnostic methods in Ayurveda, including Nadi (pulse), Darshan (visual inspection), Sparshan (touch), and Prashna (history-taking), as well as prognostic methods.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

6. Concept of Dosha and Dhatu: In-depth study of the three doshas (Vata, Pitta, Kapha) and their role in the body's functions, along with the concept of Dhatus (tissues) and their maintenance for health.
7. Ayurvedic Pharmacology (Dravyaguna): Learning about the properties, preparation, and therapeutic uses of medicinal plants and substances as outlined in the classical texts of Ayurveda.
8. Surgical Principles in Ayurveda (Shalya Tantra): Understanding the surgical methodologies, instruments, and techniques prescribed in classical Ayurvedic texts, along with their applications in modern practice.
9. Preventive and Curative Approaches: Focus on prevention (Swasthavritta) and curative treatments (Chikitsa) according to Ayurvedic principles, including dietary and lifestyle modifications for maintaining health.
10. Ayurvedic Treatments for Chronic Diseases: Study of Ayurvedic treatment protocols for managing chronic and degenerative diseases, including the use of Rasayana (rejuvenation) and Vajikarana (aphrodisiac) therapies.
11. Panchakarma and Detoxification: Comprehensive study of Panchakarma therapies (e.g., Vamana, Virechana, Basti) for detoxification, rejuvenation, and balancing the doshas, as described in the classical texts.
12. Ethics and Professionalism in Ayurveda: Examination of the ethical and moral guidelines for practitioners as laid out in Ayurvedic texts, including duties towards patients, maintaining integrity, and promoting public health.
13. Historical Development of Ayurveda: Exploration of the historical context, evolution, and expansion of Ayurvedic knowledge over time, from ancient to modern interpretations.
14. Research Methodology in Ayurveda: Training in research methods for conducting Ayurvedic clinical studies, trials, and evidence-based practices to validate Ayurvedic theories and treatments.
15. Integration of Ayurveda with Modern Medicine: Study of the integration of traditional Ayurvedic wisdom with modern medical practices, focusing on complementary approaches to health and healing.

These features ensure that students gain a deep understanding of Ayurvedic theory, classical texts, and their practical application in modern medical practice, providing them with the knowledge needed to practice Ayurveda as a holistic healthcare system.

Salient features of the curriculum for Doctor of Medicine (Rachna Sharir):

1. Introduction to Rachna Sharir: Study of human anatomy from an Ayurvedic perspective, focusing on the structure and function of the body, as outlined in classical texts like *Sushruta Samhita* and *Ashtanga Hridayam*.
2. Ayurvedic Concepts of Body Structure: Exploration of the body's physical structure, including the concept of Sharira (body) and its divisions (e.g., Sthula Sharira and Sukshma Sharira).

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

3. Embryology in Ayurveda: Study of human embryology (Garbhavyakarana) from the Ayurvedic perspective, including the process of conception, fetal development, and the formation of tissues.
4. Gross Anatomy (Sthula Sharir): Detailed study of the macroscopic structures of the body, including organs, systems, bones, muscles, and joints, in alignment with Ayurvedic texts.
5. Microscopic Anatomy (Sukshma Sharir): Study of the microscopic structure of tissues and cells, integrating Ayurvedic concepts with modern histology for a holistic understanding of the body.
6. Shodhana and Shamana Therapies: Exploration of Ayurvedic therapeutic techniques like Shodhana (detoxification) and Shamana (pacification) and their role in correcting structural and functional imbalances in the body.
7. Anatomical Terminology in Ayurveda: Learning the specialized Ayurvedic terminology used to describe anatomical features and their functional significance in health and disease.
8. Tissue Formation (Dhatu): Study of the seven primary tissues (Rasa, Rakta, Mamsa, Meda, Asthi, Majja, and Shukra) and their formation, function, and interrelationship in maintaining the structure and function of the body.
9. Marma and Vital Points: Study of the Marma (vital points) in the body, their anatomical locations, and their significance in health, trauma, and surgery.
10. Ayurvedic Perspective on Joints and Movements: Understanding the physiology of joints, ligaments, and muscles according to Ayurveda, along with movement principles and their relevance in physical health.
11. Ayurvedic Neuroscience (Mano Sharir): Exploration of the mind-body connection, including the role of the nervous system (Mano Sharir) in maintaining mental and physical health, along with the theory of sensory and motor functions.
12. Ayurvedic View of Blood Circulation and Heart: Study of blood circulation, the function of the heart, and related systems in Ayurveda, linking ancient concepts with modern cardiovascular physiology.
13. Pathological Anatomy (Rogavichaya): Understanding the pathological changes in body structures and tissues due to diseases, focusing on the causes of deformities and abnormalities as per Ayurvedic texts.
14. Marma Chikitsa (Vital Point Therapy): Application of Ayurvedic treatment techniques to manipulate vital points (Marma) for healing, pain management, and improving the functioning of internal organs.
15. Research and Clinical Applications: Training in the clinical application of Rachna Sharir principles, along with research methodology to study anatomical variations, surgical interventions, and treatment outcomes based on Ayurvedic theories.

These features provide students with a thorough understanding of the anatomy of the human body from an Ayurvedic perspective, integrating traditional knowledge with modern medical practices for a comprehensive approach to health and healing.

Salient features of the curriculum for Master of Surgery (Prasuti Tantra & Stree Rog):

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

1. Introduction to Prasuti Tantra & Stree Rog: Detailed study of the Ayurvedic concepts related to obstetrics (Prasuti Tantra) and gynecology (Stree Rog), focusing on women's health and childbirth.
2. Ayurvedic Obstetrics (Prasuti Tantra): Focus on the management of pregnancy, childbirth, and postnatal care from an Ayurvedic perspective, including prenatal and postnatal treatments and guidelines.
3. Female Reproductive System: In-depth study of the female reproductive organs, their physiology, and their function as per Ayurvedic texts, with modern clinical insights.
4. Menstrual Health (Rajaswala): Understanding the physiological and pathological aspects of menstruation, menstrual disorders, and their management through Ayurvedic therapies.
5. Labor and Delivery: Study of the physiological processes of labor and delivery, including the management of normal and complicated deliveries, as described in Ayurveda.
6. High-Risk Pregnancies: Learning the management of high-risk pregnancies, such as those with hypertension, diabetes, and multiple gestations, based on Ayurvedic principles and modern medical knowledge.
7. Ayurvedic Gynecology (Stree Rog): Focus on diagnosing and treating a wide range of gynecological disorders, including infertility, fibroids, ovarian cysts, endometriosis, and vaginal infections.
8. Fertility and Conception: Exploration of Ayurvedic approaches to enhance fertility, the use of Rasayana and Vajikarana therapies, and the treatment of infertility.
9. Ayurvedic Surgical Procedures in Obstetrics & Gynecology: Training in Ayurvedic surgical techniques for managing gynecological and obstetric conditions, including Cesarean sections, episiotomies, and other surgical interventions.
10. Pre and Post-Surgical Care: Study of pre-operative and post-operative care in obstetric and gynecological surgeries, including herbal therapies, detoxification, and dietary management to aid healing.
11. Panchakarma in Women's Health: Application of detoxification and rejuvenation therapies (e.g., Basti, Virechana) for treating gynecological conditions and improving overall women's health.
12. Management of Menopausal Disorders: Focus on the management of menopause and its associated health conditions, such as hot flashes, osteoporosis, and hormonal imbalances, through Ayurvedic therapies.
13. Ayurvedic Nutrition for Women: Understanding the role of diet in maintaining women's health, managing reproductive health, and promoting wellness during pregnancy, menstruation, and menopause.
14. Ayurvedic Management of Breast Diseases: Learning about the prevention and treatment of breast diseases, including breast cancer, through Ayurvedic methods like herbal formulations and lifestyle modifications.
15. Research Methodology in Obstetrics & Gynecology: Training in research techniques, clinical trials, and evidence-based practices for validating Ayurvedic treatments in obstetrics and gynecology.

This curriculum combines traditional Ayurvedic wisdom with modern medical practices, providing comprehensive training in the management of women's health, childbirth, and

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

gynecological conditions. It equips students with both theoretical knowledge and practical skills necessary for a successful career in Ayurvedic surgery and women's health.

Salient features of the curriculum for Doctor of Philosophy (Ph.D.):

1. Research Methodology: Comprehensive training in research design, methods, and tools, including qualitative, quantitative, and mixed research methodologies, to equip students for independent scholarly inquiry.
2. Literature Review and Critical Analysis: Emphasis on conducting thorough literature reviews, critically analyzing existing research, and identifying gaps in knowledge within the chosen field.
3. Advanced Theoretical Foundations: Deep exploration of the core theories and concepts within the student's area of study, building a strong theoretical base for their research work.
4. Dissertation and Thesis Writing: Focus on the structure, writing techniques, and academic standards required for preparing a research thesis or dissertation that contributes original knowledge to the field.
5. Ethical Considerations in Research: Training on research ethics, including issues related to plagiarism, consent, data integrity, and ensuring the ethical treatment of research subjects.
6. Data Collection and Analysis: Instruction on effective data collection methods, statistical techniques, and software tools for data analysis relevant to the specific research discipline.
7. Academic Writing and Publishing: Focus on developing academic writing skills, including the preparation of research papers for publication in peer-reviewed journals and presenting findings at conferences.
8. Literature and Citation Management: Training in proper citation styles (APA, MLA, Chicago, etc.) and the use of software like EndNote or Zotero to manage references and bibliographies.
9. Disciplinary Specialization: Advanced courses and seminars in the chosen field of study, whether in science, humanities, social sciences, or other disciplines, to enhance domain-specific expertise.
10. Research Proposal Development: Guidance in developing a well-structured research proposal, including defining the research question, objectives, and hypothesis, as well as outlining the methodology.
11. Critical Thinking and Problem-Solving: Encouraging the development of critical thinking skills to analyze complex problems, identify innovative solutions, and contribute to the advancement of knowledge.
12. Interdisciplinary Research: Exposure to interdisciplinary approaches, fostering collaboration with researchers in other fields to enrich the research and provide broader perspectives.
13. Seminars and Research Presentations: Regular participation in seminars, workshops, and conferences to present research findings, engage with peers, and receive constructive feedback.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg. Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

14. Dissertation Defense and Viva Voce: Preparation for defending the research findings in front of an academic panel, showcasing the ability to justify research decisions and conclusions.
15. Professional Development: Opportunities for personal and professional growth, including teaching assistantships, mentoring, networking with academic professionals, and career counseling for post-doctoral opportunities.

This curriculum is designed to foster deep academic expertise, research independence, and critical thinking, preparing Ph.D. candidates to contribute original and impactful knowledge in their chosen fields of study.

SHOBHIT UNIVERSITY GANGOH
REGISTRAR
Saharanpur (U.P.)

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

School of Pharmacy (AVIPS)

Bachelor of Pharmacy (B. Pharm.)

Program Outcomes, Program Specific Outcomes & Course Outcomes (POs, PSOs& COs)

Program Outcomes

Program Outcome		Statement
PO 1	Clinical Competence	Graduates will be able to conduct comprehensive medication reviews, assess patient health needs, and design effective therapeutic regimens.
PO 2	Pharmaceutical Knowledge	Graduates will possess a thorough understanding of pharmacology, pharmacotherapy, drug interactions, and the mechanisms of drug action.
PO 3	Ethical Practice	Graduates will demonstrate professionalism and ethical behavior in all aspects of pharmacy practice, including patient interactions and professional relationships.
PO 4	Communication Skills	Graduates will effectively communicate with patients, caregivers, and healthcare team members, ensuring clarity and understanding of medication information.
PO 5	Critical Thinking and Problem Solving	Graduates will apply critical thinking skills to analyze patient data, identify medication-related problems, and develop appropriate solutions.
PO 6	Research and Evidence-Based Practice	Graduates will be able to conduct research, critically evaluate scientific literature, and apply evidence-based guidelines in clinical practice.
PO 7	Inter-professional Collaboration	Graduates will work effectively within interdisciplinary teams to enhance patient care and contribute to overall healthcare delivery.
PO 8	Lifelong Learning	Graduates will demonstrate a commitment to continuous professional development and lifelong learning in the rapidly evolving field of pharmacy.
PO 9	Public Health Awareness	Graduates will engage in community health initiatives, promoting wellness and preventive care through education and outreach.
PO 10	Contribution to Drug Discovery and Development	Gain exposure to the process of drug discovery, formulation, and regulatory approval, contributing to advancements in pharmaceutical research and the development of new therapies.
PO 11	Legal Aspects of Pharmacy Practice	Understand the legal and regulatory frameworks governing pharmacy practice, including drug laws, licensing, and professional responsibilities in various healthcare settings.

ADARSH VENDHAN INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur, U.P.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional Area Gangoh, Distt. Saharanpur (U.P.) 247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

PO 12	Continuous Professional Development	Cultivate a habit of continuous learning through professional development, conferences, and reading, ensuring that pharmacy practice evolves in response to new knowledge and technologies.

Program Specific Outcomes (PSOs)

Program Specific Outcome	Statement
PSO 1	Students will demonstrate the ability to assess patient medication needs, develop individualized care plans, and implement appropriate therapeutic interventions.
PSO2	Students will gain knowledge in drug formulation, development processes, and the management of pharmaceutical products throughout their lifecycle.
PSO 3	Students will apply pharmacological principles and clinical knowledge to evaluate and optimize drug therapy in diverse patient populations.
PSO 4	Students will understand the regulatory frameworks governing pharmacy practice, including drug approval processes, safety, and quality assurance.

Course Outcomes (COs)
Semester I

Course: Human Anatomy and Physiology-I

Course Outcomes	Statement
CO 1	Explain the gross morphology, structure and functions of various organs of the humanbody.
CO 2	Describe the various homeostatic mechanisms and their imbalances.
CO 3	Identify the various tissues and organs of different systems of human body.
CO 4	Perform the various experiments related to special senses and nervous system.
CO 5	Appreciate coordinated working pattern of different organs of each system

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur, U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Pharmaceutical Analysis

Course Outcomes	Statement
CO 1	Understand the principles of volumetric and electro chemical analysis
CO 2	Carryout various volumetric and electrochemical titrations
CO 3	Develop analytical skills

Course: Pharmaceutics- I

Course Outcomes	Statement
CO 1	Know the history of profession of pharmacy
CO 2	Understand the basics of different dosage forms, pharmaceutical incompatibilities andpharmaceutical calculations
CO 3	Understand the professional way of handling the prescription
CO 4	Preparation of various conventional dosage forms

Course: Pharmaceutical Inorganic Chemistry

Course Outcomes	Statement
CO 1	Know the sources of impurities and methods to determine the impurities in inorganicdrugs and pharmaceuticals
CO 2	Understand the medicinal and pharmaceutical importance of inorganic compounds

Course: Communication Skills

Course Outcomes	Statement
CO 1	Understand the behavioral needs for a Pharmacist to function effectively in theareas of pharmaceutical operation
CO 2	Communicate effectively (Verbal and Non Verbal)
CO 3	Effectively manage the team as a team player
CO 4	Develop interview skills

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
U.P.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

CO 5	Develop Leadership qualities and essentials

Course: Remedial Biology

Course Outcomes	Statement
CO 1	Know the classification and salient features of five kingdoms of life
CO 2	Understand the basic components of anatomy & physiology of plant
CO 3	Know understand the basic components of anatomy & physiology animal withspecial reference to human

Course: Remedial Mathematics

Course Outcomes	Statement
CO 1	Know the theory and their application in Pharmacy
CO 2	Solve the different types of problems by applying theory
CO 3	Appreciate the important application of mathematics in Pharmacy

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)

2nd Semester

Course: Human Anatomy and Physiology-II

Course Outcomes	Statement
CO 1	Explain the gross morphology, structure and functions of various organs of thehuman body.
CO 2	Describe the various homeostatic mechanisms and their imbalances.
CO 3	Identify the various tissues and organs of different systems of human body.
CO 4	Perform the hematological tests like blood cell counts, haemoglobin estimation, bleeding/clotting time etc and also record blood pressure, heart rate, pulse and respiratory volume.
CO 5	Appreciate coordinated working pattern of different organs of each system
CO 6	Appreciate the interlinked mechanisms in the maintenance of normal functioning (homeostasis) of human body.

Course: Pharmaceutical Organic Chemistry –I

Course Outcomes	Statement
CO 1	Write the structure, name and the type of isomerism of the organic compound
CO 2	Write the reaction, name the reaction and orientation of reactions
CO 3	Account for reactivity/stability of compounds,
CO 4	Identify/confirm the identification of organic compound

Course: Biochemistry

Course Outcomes	Statement
CO 1	Understand the catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs, therapeutic and diagnostic applications of enzymes.
CO 2	Understand the metabolism of nutrient molecules in physiological and pathological conditions.

ADARSH VENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

CO 3	Understand the genetic organization of mammalian genome and functions ofDNA in the synthesis of RNAs and proteins.

Course: Pathophysiology

Course Outcomes	Statement
CO 1	Describe the etiology and pathogenesis of the selected disease states;
CO 2	Name the signs and symptoms of the diseases; and
CO 3	Mention the complications of the diseases.

Course: Computer Applications in Pharmacy

Course Outcomes	Statement
CO 1	Know the various types of application of computers in pharmacy
CO 2	Know the various types of databases
CO 3	Know the various applications of databases in pharmacy

Course: Environmental Sciences

Course Outcomes	Statement
CO 1	Create the awareness about environmental problems among learners.
CO 2	Impart basic knowledge about the environment and its allied problems.
CO 3	Develop an attitude of concern for the environment.
CO 4	Motivate learner to participate in environment protection and environmentimprovement.
CO 5	Acquire skills to help the concerned individuals in identifying and solvingenvironmental problems.
CO6	Strive to attain harmony with Nature.

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)

3rd Semester

Course: Pharmaceutical Organic Chemistry –II

Course Outcomes	Statement
CO 1	Write the structure, name and the type of isomerism of the organic compound
CO 2	Write the reaction, name the reaction and orientation of reactions
CO 3	Account for reactivity/stability of compounds,
CO 4	Prepare organic compounds

Course: Physical Pharmaceutics-I

Course Outcomes	Statement
CO 1	Understand various physicochemical properties of drug molecules in thedesigning the dosage forms
CO 2	Know the principles of chemical kinetics & to use them for stability testing and determination of expiry date of formulations
CO 3	Demonstrate use of physicochemical properties in the formulation development and evaluation of dosage forms.

Course: Pharmaceutical Microbiology

Course Outcomes	Statement
CO 1	Understand methods of identification, cultivation and preservation of various microorganisms
CO 2	To understand the importance and implementation of sterlization in pharmaceutical processing and industry
CO 3	Learn sterility testing of pharmaceutical products.
CO 4	Carried out microbiological standardization of Pharmaceuticals.
CO 5	Understand the cell culture technology and its applications in pharmaceuticalindustries.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Pharmaceutical Engineering

Course Outcomes	Statement
CO 1	To know various unit operations used in Pharmaceutical industries.
CO 2	To understand the material handling techniques.
CO 3	To perform various processes involved in pharmaceutical manufacturing process.
CO 4	To carry out various test to prevent environmental pollution.
CO 5	To appreciate and comprehend significance of plant lay out design for optimumuse of resources.
CO6	To appreciate the various preventive methods used for corrosion control inPharmaceutical industries.

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)

4th Semester

Course: Pharmaceutical Organic Chemistry –III

Course Outcomes	Statement
CO 1	Understand the methods of preparation and properties of organic compounds
CO 2	Explain the stereo chemical aspects of organic compounds and stereo chemicalreactions
CO 3	Know the medicinal uses and other applications of organic compounds

Course: Medicinal Chemistry – I

Course Outcomes	Statement
CO 1	Understand the chemistry of drugs with respect to their pharmacological activity
CO 2	Understand the drug metabolic pathways, adverse effect and therapeutic value ofdrugs
CO 3	Know the Structural Activity Relationship (SAR) of different class of drugs
CO 4	Write the chemical synthesis of some drugs

Course: Physical Pharmaceutics-II

Course Outcomes	Statement
CO 1	Understand various physicochemical properties of drug molecules in thedesigning the dosage forms
CO 2	Know the principles of chemical kinetics & to use them for stability testing and determination of expiry date of formulations
CO 3	Demonstrate use of physicochemical properties in the formulation development and evaluation of dosage forms.

ADARSH VINAYAK INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Pharmacology-I

Course Outcomes	Statement
CO 1	Understand the pharmacological actions of different categories of drugs
CO 2	Explain the mechanism of drug action at organ system/sub cellular/ macromolecular levels.
CO 3	Apply the basic pharmacological knowledge in the prevention and treatment ofvarious diseases.
CO 4	Observe the effect of drugs on animals by simulated experiments
CO 5	Appreciate correlation of pharmacology with other bio medical sciences

Course: Pharmacognosy and Phytochemistry-I

Course Outcomes	Statement
CO 1	To know the techniques in the cultivation and production of crude drugs
CO 2	To know the crude drugs, their uses and chemical nature
CO 3	Know the evaluation techniques for the herbal drugs
CO 4	To carry out the microscopic and morphological evaluation of crude drugs

Course Outcomes (COs)
5th Semester

Course: Medicinal Chemistry – II

Course Outcomes	Statement
CO 1	Understand the chemistry of drugs with respect to their pharmacological activity
CO 2	Understand the drug metabolic pathways, adverse effect and therapeutic value ofdrugs
CO 3	Know the Structural Activity Relationship of different class of drugs
CO 4	Study the chemical synthesis of selected drugs

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Industrial Pharmacy-I

Course Outcomes	Statement
CO 1	Know the various pharmaceutical dosage forms and their manufacturingtechniques.
CO 2	Know various considerations in development of pharmaceutical dosage forms
CO 3	Formulate solid, liquid and semisolid dosage forms and evaluate them for theirquality

Course: Pharmacology-II

Course Outcomes	Statement
CO 1	Understand the mechanism of drug action and its relevance in the treatment ofdifferent diseases
CO 2	Demonstrate isolation of different organs/tissues from the laboratory animals bysimulated experiments
CO 3	Demonstrate the various receptor actions using isolated tissue preparation
CO 4	Appreciate correlation of pharmacology with related medical sciences

Course: Pharmacognosy and Phytochemistry-II

Course Outcomes	Statement
CO 1	To know the modern extraction techniques, characterization and identification of theherbal drugs and phytoconstituents
CO 2	To understand the preparation and development of herbal formulation.
CO 3	To understand the herbal drug interactions
CO 4	To carryout isolation and identification of phytoconstituents

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Pharmaceutical Jurisprudence

Course Outcomes	Statement
CO 1	The Pharmaceutical legislations and their implications in the development andmarketing of pharmaceuticals.
CO 2	Various Indian pharmaceutical Acts and Laws
CO 3	The regulatory authorities and agencies governing the manufacture and sale ofpharmaceuticals
CO 4	The code of ethics during the pharmaceutical practice

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur-U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)
6th Semester

Course: Medicinal Chemistry – III

Course Outcomes	Statement
CO 1	Understand the importance of drug design and different techniques of drugdesign.
CO 2	Understand the chemistry of drugs with respect to their biological activity.
CO 3	Know the metabolism, adverse effects and therapeutic value of drugs.
CO 4	Know the importance of SAR of drugs.

Course: Pharmacology-III

Course Outcomes	Statement
CO 1	Understand the mechanism of drug action and its relevance in the treatment ofdifferent infectious diseases
CO 2	Comprehend the principles of toxicology and treatment of various poisonings and
CO 3	Appreciate correlation of pharmacology with related medical sciences.

Course: Herbal Drug Technology

Course Outcomes	Statement
CO 1	Understand raw material as source of herbal drugs from cultivation to herbal drugproduct
CO 2	Know the WHO and ICH guidelines for evaluation of herbal drugs
CO 3	Know the herbal cosmetics, natural sweeteners, nutraceuticals
CO 4	Appreciate patenting of herbal drugs, GMP.

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur,U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Biopharmaceutics and Pharmacokinetics

Course Outcomes	Statement
CO 1	Understand the basic concepts in biopharmaceutics and pharmacokinetics andtheir significance.
CO 2	Use of plasma drug concentration-time data to calculate the pharmacokinetic parameters to describe the kinetics of drug absorption, distribution, metabolism, excretion, elimination.
CO 3	To understand the concepts of bioavailability and bioequivalence of drugproducts and their significance.
CO 4	Understand various pharmacokinetic parameters, their significance & applications.

Course: Pharmaceutical Biotechnology

Course Outcomes	Statement
CO 1	Understanding the importance of Immobilized enzymes in PharmaceuticalIndustries
CO 2	Genetic engineering applications in relation to production of pharmaceuticals
CO 3	Importance of Monoclonal antibodies in Industries
CO 4	Appreciate the use of microorganisms in fermentation technology

Course: Pharmaceutical Quality Assurance

Course Outcomes	Statement
CO 1	Understand the cGMP aspects in a pharmaceutical industry
CO 2	Appreciate the importance of documentation
CO 3	Understand the scope of quality certifications applicable to pharmaceuticalindustries
CO 4	Understand the responsibilities of QA & QC departments

ADARSH VAIDARBHA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur, U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)

7th Semester

Course: Instrumental Methods of Analysis

Course Outcomes	Statement
CO 1	Understand the interaction of matter with electromagnetic radiations and itsapplications in drug analysis
CO 2	Understand the chromatographic separation and analysis of drugs.
CO 3	Perform quantitative & qualitative analysis of drugs using various analyticalinstruments.

Course: Industrial Pharmacy-II

Course Outcomes	Statement
CO 1	Know the process of pilot plant and scale up of pharmaceutical dosage forms
CO 2	Understand the process of technology transfer from lab scale to commercial batch
CO 3	Know different Laws and Acts that regulate pharmaceutical industry
CO 4	Understand the approval process and regulatory requirements for drug products

Course: Pharmacy Practice

Course Outcomes	Statement
CO 1	Know various drug distribution methods in a hospital
CO 2	Appreciate the pharmacy stores management and inventory control
CO 3	Monitor drug therapy of patient through medication chart review and clinicalreview
CO 4	Obtain medication history interview and counsel the patients
CO 5	Identify drug related problems
CO6	Detect and assess adverse drug reactions

ADARSH VENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur,U.P.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

CO7	Interpret selected laboratory results (as monitoring parameters in therapeutics) ofspecific disease states
CO8	Know pharmaceutical care services
CO9	Do patient counseling in community pharmacy;
CO10	Appreciate the concept of Rational drug therapy.

Course: Novel Drug Delivery Systems

Course Outcomes	Statement
CO 1	To understand various approaches for development of novel drug delivery systems.
CO 2	To understand the criteria for selection of drugs and polymers for the development ofNovel drug delivery systems, their formulation and evaluation

ADARSH INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)

8th Semester

Course: Biostatisitcs and Research Methodology

Course Outcomes	Statement
CO 1	Know the operation of M.S. Excel, SPSS, R and MINITAB®, DoE (Design ofExperiment)
CO 2	Know the various statistical techniques to solve statistical problems
CO 3	Appreciate statistical techniques in solving the problems.

Course: Social and Preventive Pharmacy

Course Outcomes	Statement
CO 1	Acquire high consciousness/realization of current issues related to health and pharmaceutical problems within the country and worldwide.
CO 2	Have a critical way of thinking based on current healthcare development.
CO 3	Evaluate alternative ways of solving problems related to health and pharmaceutical issues.

Course: Pharma Marketing Management

Course Outcomes	Statement
CO 1	The course aims to provide an understanding of marketing concepts and techniques and their applications in the pharmaceutical industry.

Course: Pharmaceutical Regulatory Science

Course Outcomes	Statement
CO 1	Know about the process of drug discovery and development
CO 2	Know the regulatory authorities and agencies governing the manufacture and saleof pharmaceuticals
CO 3	Know the regulatory approval process and their registration in Indian

ADARSH VIDYA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Pharmacovigilance

Course Outcomes	Statement
CO 1	Why drug safety monitoring is important?
CO 2	History and development of pharmacovigilance
CO 3	National and international scenario of pharmacovigilance
CO4	Dictionaries, coding and terminologies used in pharmacovigilance
CO5	Detection of new adverse drug reactions and their assessment
CO6	International standards for classification of diseases and drugs
CO7	Adverse drug reaction reporting systems and communication in pharmacovigilance
CO8	Methods to generate safety data during pre-clinical, clinical and post approval phases ofdrugs' life cycle
CO9	Drug safety evaluation in pediatrics, geriatrics, pregnancy and lactation
CO10	Pharmacovigilance Program of India (PvPI) requirement for ADR reporting in India
CO11	ICH guidelines for ICSR, PSUR, expedited reporting, pharmacovigilance planning
CO12	CIOMS requirements for ADR reporting
CO13	Writing case narratives of adverse events and their quality.

Course: Quality Control and Standardization of Herbals

Course Outcomes	Statement
CO 1	Know WHO guidelines for quality control of herbal drugs
CO 2	Know Quality assurance in herbal drug industry
CO 3	Know the regulatory approval process and their registration in Indian andinternational markets
CO4	Appreciate EU and ICH guidelines for quality control of herbal drugs

PADMSHRI VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Computer Aided Drug Design

Course Outcomes	Statement
CO 1	Design and discovery of lead molecules
CO 2	The role of drug design in drug discovery process
CO 3	The concept of QSAR and docking
CO4	Various strategies to develop new drug like molecules.
CO5	The design of new drug molecules using molecular modeling software

Course: Cell and Molecular Biology

Course Outcomes	Statement
CO 1	Summarize cell and molecular biology history.
CO 2	Summarize cellular functioning and composition.
CO 3	Describe the chemical foundations of cell biology.
CO4	Summarize the DNA properties of cell biology.
CO5	Describe protein structure and function.
CO6	Describe cellular membrane structure and function.
CO7	Describe basic molecular genetic mechanisms.
CO8	Summarize the Cell Cycle

Course: Pharmacological Screening Methods

Course Outcomes	Statement
CO 1	Appreciate the applications of various commonly used laboratory animals.
CO 2	Appreciate and demonstrate the various screening methods used in preclinicalresearch

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur, U.P.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

CO 3	Appreciate and demonstrate the importance of biostatistics and research methodology
CO4	Design and execute a research hypothesis independently

Course: Advanced Instrumentation Techniques

Course Outcomes	Statement
CO 1	Understand the advanced instruments used and its applications in drug analysis
CO 2	Understand the chromatographic separation and analysis of drugs.
CO 3	Understand the calibration of various analytical instruments
CO4	Know analysis of drugs using various analytical instruments.

Course: Dietary Supplements and Nutraceuticals

Course Outcomes	Statement
CO 1	Understand the need of supplements by the different group of people to maintainhealthy life.
CO 2	Understand the outcome of deficiencies in dietary supplements.
CO 3	Appreciate the components in dietary supplements and the application.
CO4	Appreciate the regulatory and commercial aspects of dietary supplements includinghealth claims.

ADARSH VINENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur, U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

School of Pharmacy (AVIPS)

Master of Pharmacy (Pharmaceutical Chemistry)

Program Outcomes, Program Specific Outcomes & Course Outcomes
(POs, PSOs& COs)

Program Outcomes

Program Outcome		Statement
PO 1	Knowledge Application:	Graduates will apply advanced knowledge of pharmaceutical sciences to solve complex problems in drug development, formulation, and patient care.
PO 2	Research Proficiency	Graduates will demonstrate the ability to conduct independent research, critically analyze data, and contribute to scientific literature in the field of pharmacy.
PO 3	Clinical Judgment	Graduates will make informed clinical decisions based on evidence-based practices, optimizing therapeutic outcomes for patients.
PO 4	Communication Skills	Graduates will effectively communicate pharmaceutical information, both orally and in writing, to diverse audiences, including patients, healthcare professionals, and regulatory bodies.
PO 5	Ethical Standards	Graduates will adhere to ethical principles in all aspects of pharmaceutical practice, ensuring patient safety and promoting public health.
PO 6	Team Collaboration	Graduates will work effectively in interdisciplinary teams, contributing to comprehensive patient care and fostering collaboration among healthcare providers.
PO 7	Lifelong Learning	Graduates will exhibit a commitment to lifelong learning, seeking out continuing education opportunities to stay updated with advancements in the pharmaceutical field.
PO 8	Regulatory Knowledge	Graduates will understand and navigate the regulatory landscape governing pharmaceutical products, ensuring compliance with laws and guidelines.
PO 9	Patient-Centered Care	Graduates will provide patient-centered pharmaceutical care, considering individual patient needs, preferences, and values in their practice.
PO 10	Innovation and Entrepreneurship	Graduates will demonstrate the ability to innovate and explore entrepreneurial opportunities in the pharmaceutical industry, contributing to the development of new products and services.
PO 11	Research Methodology and Scientific Communication	Develop research skills to conduct independent studies, analyze scientific literature, and effectively communicate research findings in written and oral formats.

DIRECTOR

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

PO 12	Drug Synthesis and Chemical Characterization	Acquire advanced skills in the synthesis, isolation, and characterization of pharmaceutical compounds, employing techniques such as chromatography, spectroscopy, and other analytical methods.

Program Specific Outcomes (PSOs)

Program Specific Outcome	Statement
PSO 1	Advanced Chemical Knowledge: Graduates will demonstrate a thorough understanding of organic, inorganic, and medicinal chemistry principles as they apply to drug design and development.
PSO2	Synthesis and Characterization: Graduates will be skilled in the synthesis, purification, and characterization of pharmaceutical compounds using modern analytical techniques.
PSO 3	Drug Design and Development: Graduates will apply knowledge of structure-activity relationships (SAR) and molecular modeling to design and develop new pharmaceutical agents.
PSO 4	Analytical Method Development: Graduates will be proficient in developing and validating analytical methods for the quantitative and qualitative analysis of pharmaceutical substances.

ADARSH VINDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)

1st Semester

Course: Analytical Techniques

Course Outcomes	Statement
CO 1	The analysis of various drugs in single and combination dosage forms
CO 2	Theoretical and practical skills of the instruments

Course: Advanced Organic Chemistry-I

Course Outcomes	Statement
CO 1	The principles and applications of reterosynthesis
CO 2	The mechanism & applications of various named reactions
CO 3	The concept of disconnection to develop synthetic routes for small target molecule.
CO 4	The various catalysts used in organic reactions
CO 5	The chemistry of heterocyclic compounds

Course: Advanced Medicinal Chemistry

Course Outcomes	Statement
CO 1	Different stages of drug discovery
CO 2	Role of medicinal chemistry in drug research
CO 3	Different techniques for drug discovery
CO 4	Various strategies to design and develop new drug like molecules for biological targets
CO 5	Peptidomimetics

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Chemistry of Natural Products

Course Outcomes	Statement
CO 1	Different types of natural compounds and their chemistry and medicinal importance
CO 2	The importance of natural compounds as lead molecules for new drug discovery
CO 3	The concept of rDNA technology tool for new drug discovery
CO 4	General methods of structural elucidation of compounds of natural origin
CO 5	Isolation, purification and characterization of simple chemical constituents from natural source

Course Outcomes (COs)
2nd Semester

Course: Advanced Spectral Analysis

Course Outcomes	Statement
CO 1	Interpretation of the NMR, Mass and IR spectra of various organic compounds
CO 2	Theoretical and practical skills of the hyphenated instruments
CO 3	Identification of organic compounds

Course: Advanced Organic Chemistry-II

Course Outcomes	Statement
CO 1	The principles and applications of Green chemistry
CO 2	The concept of peptide chemistry.
CO 3	The various catalysts used in organic reactions
CO 4	The concept of stereochemistry and asymmetric synthesis.

ADARSH VINENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur,U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Computer Aided Drug Design

Course Outcomes	Statement
CO 1	Role of CADD in drug discovery
CO 2	Different CADD techniques and their applications
CO 3	Various strategies to design and develop new drug like molecules.
CO 4	Working with molecular modeling softwares to design new drug molecules
CO 5	The in silico virtual screening protocols

Course: Pharmaceutical Process Chemistry

Course Outcomes	Statement
CO 1	The strategies of scale up process of a pis and intermediates
CO 2	The various unit operations and various reactions in process chemistry

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

School of Pharmacy (AVIPS)

Master of Pharmacy (Pharmaceutics)

Program Outcomes, Program Specific Outcomes & Course Outcomes
(POs, PSOs& COs)

Program Outcomes

Program Outcome		Statement
PO 1	Pharmaceutical Knowledge Application	Graduates will apply advanced knowledge of pharmaceutics to develop, formulate, and evaluate pharmaceutical products effectively.
PO 2	Research Competence	Graduates will demonstrate the ability to design and conduct independent research in pharmaceutics, utilizing appropriate methodologies and analytical techniques.
PO 3	Formulation Development Skills	Graduates will be skilled in developing various drug delivery systems, optimizing formulations for different routes of administration.
PO 4	Analytical Proficiency	Graduates will utilize advanced analytical techniques to assess the quality and stability of pharmaceutical formulations, ensuring compliance with regulatory standards.
PO 5	Clinical Application	Graduates will apply their knowledge of pharmacokinetics and pharmacodynamics to optimize drug therapy and improve patient outcomes.
PO 6	Regulatory Compliance	Graduates will understand and navigate regulatory requirements and guidelines affecting pharmaceutical development and commercialization.
PO 7	Ethical Standards	Graduates will uphold ethical principles in research and practice, ensuring patient safety and adherence to professional standards.
PO 8	Communication Skills	Graduates will effectively communicate complex pharmaceutical concepts and research findings to a variety of audiences, including healthcare professionals and regulatory agencies.

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur,U.P.

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

PO 9	Collaborative Teamwork	Graduates will work effectively in interdisciplinary teams, contributing to collaborative problem-solving and enhancing healthcare delivery.
PO 10	Commitment to Lifelong Learning	Graduates will demonstrate a commitment to lifelong learning, actively engaging in professional development and staying updated on advancements in pharmaceutics.
PO 11	Self-Management and Independent Learning	Develop self-management skills and the ability to engage in independent learning, enabling the graduate to keep up with advancements in pharmaceutical sciences and take responsibility for their continuous education.
PO 12	Entrepreneurial and Leadership Abilities	Foster entrepreneurial and leadership skills necessary to start or manage pharmaceutical companies, lead research projects, or contribute to innovation in drug development, ensuring effective team management and business success.

Program Specific Outcomes (PSOs)

Program Specific Outcome	Statement
PSO 1	Advanced Pharmaceutical Knowledge: Graduates will demonstrate a deep understanding of drug development processes, including formulation, synthesis, and quality control of pharmaceutical products.
PSO2	Clinical Pharmacy Skills: Graduates will apply clinical knowledge to assess patient medication regimens, provide pharmaceutical care, and contribute to interdisciplinary healthcare teams.
PSO 3	Research Methodology: Graduates will be proficient in research methodologies, enabling them to design, conduct, and analyze pharmaceutical research effectively, including clinical trials and drug studies.
PSO 4	Pharmacokinetics and Pharmacodynamics: Graduates will understand the principles of pharmacokinetics and pharmacodynamics, applying this knowledge to optimize drug therapy for diverse patient populations.

ADARSH VAIDYA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur, U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)
1st Semester

Course: Modern Pharmaceutical Analytical Techniques

Course Outcomes	Statement
CO 1	Chemicals and Excipients
CO 2	The analysis of various drugs in single and combination dosage forms
CO 3	Theoretical and practical skills of the instruments

Course: Drug Delivery Systems

Course Outcomes	Statement
CO 1	The various approaches for development of novel drug delivery systems.
CO 2	The criteria for selection of drugs and polymers for the development of delivering system
CO 3	The formulation and evaluation of Novel drug delivery systems.

Course: Modern Pharmaceutics

Course Outcomes	Statement
CO 1	The elements of preformulation studies.
CO 2	The Active Pharmaceutical Ingredients and Generic drug Product development
CO 3	Industrial Management and GMP Considerations.
CO 4	Optimization Techniques & Pilot Plant Scale Up Techniques
CO 5	Stability Testing, sterilization process & packaging of dosage forms.

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Regulatory Affairs

Course Outcomes	Statement
CO 1	The Concepts of innovator and generic drugs, drug development process
CO 2	The Regulatory guidance's and guidelines for filing and approval process
CO 3	Preparation of Dossiers and their submission to regulatory agencies in different countries
CO 4	Post approval regulatory requirements for actives and drug products
CO 5	Submission of global documents in CTD/ eCTD formats
CO 6	Clinical trials requirements for approvals for conducting clinical trials
CO 7	Pharmacovigilence and process of monitoring in clinical trials

Course: Molecular Pharmaceutics (Nanotechnology & Targeted DDS) (NTDS)

Course Outcomes	Statement
CO 1	The various approaches for development of novel drug delivery systems.
CO 2	The criteria for selection of drugs and polymers for the development of NTDS
CO 3	The formulation and evaluation of novel drug delivery systems.

Course: Advanced Biopharmaceutics & Pharmacokinetics

Course Outcomes	Statement
CO 1	The basic concepts in bio pharmaceutics and pharmacokinetics.
CO 2	The use raw data and derive the pharmacokinetic models and parameters the best describe the process of drug absorption, distribution, metabolism and elimination.
CO 3	The critical evaluation of biopharmaceutic studies involving drug product equivalency.
CO 4	The design and evaluation of dosage regimens of the drugs using pharmacokinetic and biopharmaceutic parameters.
CO 5	The potential clinical pharmacokinetic problems and application of basics of pharmacokinetic

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Computer Aided Drug Development

Course Outcomes	Statement
CO 1	History of Computers in Pharmaceutical Research and Development
CO 2	Computational Modeling of Drug Disposition
CO 3	Computers in Preclinical Development
CO 4	Optimization Techniques in Pharmaceutical Formulation
CO 5	Computers in Market Analysis
CO 6	Computers in Clinical Development
CO 7	Artificial Intelligence (AI) and Robotics
CO 8	Computational fluid dynamics(CFD)

Course: Cosmetics and Cosmeceuticals

Course Outcomes	Statement
CO 1	Key ingredients used in cosmetics and cosmeceuticals.
CO 2	Key building blocks for various formulations.
CO 3	Current technologies in the market
CO 4	Various key ingredients and basic science to develop cosmetics and cosmeceuticals
CO 5	Scientific knowledge to develop cosmetics and cosmeceuticals with desired Safety, stability, and efficacy.

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

School of Pharmacy (AVIPS)
Master of Pharmacy (Pharmacology)

Program Outcomes, Program Specific Outcomes & Course Outcomes
(POs, PSOs& COs)

Program Outcomes

Program Outcome		Statement
PO 1	Knowledge of Drug Mechanisms	Understand the pharmacokinetics and pharmacodynamics of various drug classes and how they interact with biological systems.
PO 2	Clinical Application	Apply pharmacological principles in clinical settings to optimize drug therapy and improve patient outcomes.
PO 3	Safety and Efficacy	Evaluate the safety, efficacy, and potential side effects of medications, including understanding drug interactions and contraindications.
PO 4	Research Skills	Conduct and interpret pharmacological research, including the ability to critically analyze scientific literature and apply findings to practice.
PO 5	Ethical Considerations	Understand ethical issues related to pharmacotherapy, including informed consent, drug regulation, and the implications of new therapies.
PO 6	Patient-Centered Care	Develop communication skills to educate patients about their medications, including dosage, administration, and potential side effects.
PO 7	Interprofessional Collaboration	Work effectively as part of a healthcare team to ensure comprehensive patient care and medication management.
PO 8	Therapeutic Drug Monitoring and Personalized Medicine	Learn the techniques for monitoring drug concentrations, assessing therapeutic outcomes, and implementing personalized drug therapy based on genetic and clinical factors.
PO 9	Interdisciplinary Collaboration	Foster collaboration with healthcare professionals, including physicians, nurses, and pharmacists, to ensure the safe and effective use of medications in patient care.
PO 10	Patient Education and Communication	Develop communication skills to educate patients and healthcare teams on the safe use of medications, adherence, side effects, and lifestyle modifications to improve therapeutic outcomes.

ADARSH VENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh, U.P.

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

PO 11	Innovation and Emerging Therapies	Stay abreast of the latest advancements in pharmacology, such as biologics, gene therapy, and novel drug delivery systems, preparing students to contribute to the development of new therapies.
PO 12	Pharmacoeconomics and Drug Regulation	Gain insight into the economic and regulatory aspects of pharmacology, including drug approval processes, healthcare policies, and cost-effectiveness analysis.

Program Specific Outcomes (PSOs)

Program Specific Outcome	Statement
PSO 1	Advanced Pharmaceutical Knowledge: Graduates will demonstrate a deep understanding of drug development processes, including formulation, synthesis, and quality control of pharmaceutical products.
PSO2	Clinical Pharmacy Skills: Graduates will apply clinical knowledge to assess patient medication regimens, provide pharmaceutical care, and contribute to interdisciplinary healthcare teams.
PSO 3	**Research Methodology**: Graduates will be proficient in research methodologies, enabling them to design, conduct, and analyze pharmaceutical research effectively, including clinical trials and drug studies.
PSO 4	Pharmacokinetics and Pharmacodynamics: Graduates will understand the principles of pharmacokinetics and pharmacodynamics, applying this knowledge to optimize drug therapy for diverse patient populations.

Course Outcomes (COs)

1st Semester

Course: Modern Pharmaceutical Analytical Techniques

Course Outcomes	Statement
CO 1	Chemicals and Excipients
CO 2	The analysis of various drugs in single and combination dosage forms
CO 3	Theoretical and practical skills of the instruments

ADARSH V. JENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur, U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Advanced Pharmacology - I

Course Outcomes	Statement
CO 1	Discuss the pathophysiology and pharmacotherapy of certain diseases
CO 2	Explain the mechanism of drug actions at cellular and molecular level
CO 3	Understand the adverse effects, contraindications and clinical uses of drugs used in treatment of diseases

Course: Pharmacological and Toxicological Screening Methods–I

Course Outcomes	Statement
CO 1	Appraise the regulations and ethical requirement for the usage of experimental animals.
CO 2	Describe the various animals used in the drug discovery process and good laboratory practices in maintenance and handling of experimental animals
CO 3	Describe the various newer screening methods involved in the drug discovery process
CO 4	Appreciate and correlate the preclinical data to humans

Course: Cellular and Molecular Pharmacology

Course Outcomes	Statement
CO 1	Explain the receptor signal transduction processes.
CO 2	Explain the molecular pathways affected by drugs.
CO 3	Appreciate the applicability of molecular pharmacology and biomarkers in drug discovery process.
CO 4	Demonstrate molecular biology techniques as applicable for pharmacology

ADARSH V. JENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)

2nd Semester

Course: Advanced Pharmacology- II

Course Outcomes	Statement
CO 1	Explain the mechanism of drug actions at cellular and molecular level
CO 2	Discuss the Pathophysiology and pharmacotherapy of certain diseases
CO 3	Understand the adverse effects, contraindications and clinical uses of drugs used in treatment of diseases

Course: Pharmacological and Toxicological Screening Methods-II

Course Outcomes	Statement
CO 1	Explain the various types of toxicity studies.
CO 2	Appreciate the importance of ethical and regulatory requirements for toxicity studies.
CO 3	Demonstrate the practical skills required to conduct the preclinical toxicity studies.

Course: Principles of Drug Discovery

Course Outcomes	Statement
CO 1	Explain the various stages of drug discovery.
CO 2	Appreciate the importance of the role of genomics, proteomics and bioinformatics in drug discovery
CO 3	Explain various targets for drug discovery.
CO 4	Explain various lead seeking method and lead optimization
CO 5	Appreciate the importance of the role of computer aided drug design in drug discovery

ADARSH VENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur, U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Clinical Research and Pharmacovigilance

Course Outcomes	Statement
CO 1	Explain the regulatory requirements for conducting clinical trial
CO 2	Demonstrate the types of clinical trial designs
CO 3	Explain the responsibilities of key players involved in clinical trials
CO 4	Execute safety monitoring, reporting and close-out activities
CO 5	Explain the principles of Pharmacovigilance
CO 6	Detect new adverse drug reactions and their assessment
CO 7	Perform the adverse drug reaction reporting systemsand communication in Pharmacovigilance

ADARSH VIJENDRA INSTITUTE OF PHARMACEUTICAL SCIENCES
DIRECTOR
Gangoh-Saharanpur,U.P.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U: www.sug.ac.in

School of Ayurveda (KSVAMC&RC)
Bachelor of Ayurvedic Medicine and Surgery (B.A.M.S.)

Program Outcomes, Program Specific Outcomes & Course Outcomes
(POs, PSOs & COs)

Program Outcomes

Program Outcome		Statement
PO 1	Knowledge Application	Demonstrate comprehensive knowledge and application of the Trisutra concept to explore root causes, identify clinical manifestations of disease to treat ailments and maintain healthy status.
PO 2	Research Skills	Demonstrate knowledge and skills in Ayurveda, acquired through integration of multidisciplinary perspectives and keen observation of clinical and practical experiences.
PO 3	Sustainable Practices	Demonstrate proficiency in holistic, unique assessment of an individual for rational approach and decision-making in management of disease and maintenance of health.
PO 4	Technical Proficiency	Perform procedures and therapeutic maneuvers with skill and dexterity in a variety of situations.
PO 5	Critical Thinking	Demonstrate knowledge, skills and attitudes to provide holistic quality care and preparedness to practice.
PO 6	Communication Skill	Demonstrate agility, virtuous and ethical behavior and compassion to improve the well-being of individuals and society.
PO 7	Teamwork and Leadership	Demonstrate self-directedness in pursuit of knowledge and skills, which is required for advancing health care and wellbeing of society.
PO 8	Communication Skill	Demonstrate the ability to effectively communicate with patients, families, community and peers
PO 9	Lifelong Learning Economic Understanding,	Demonstrate an understanding of qualities and required skills as a practitioner, researcher and academician and an aspirations to become one

K.S.V.A. MEDICAL COLLEGE & RESEARCH CENTRE PRINCIPAL

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Program Specific Outcomes (PSOs)

Program Specific Outcome	Statement
PSO 1	Apply fundamental principles of Ayurveda for diagnosing and managing common and chronic health conditions using traditional methods like Panchakarma, herbal formulations, and diet therapy.
PSO 2	Demonstrate the ability to integrate Ayurvedic knowledge with modern diagnostic tools and allopathic practices where appropriate, ensuring holistic and evidence-based healthcare.
PSO 3	Understand and prepare Ayurvedic medicines, including their formulation, preservation, and therapeutic usage, while adhering to safety and quality standards.
PSO 4	Design and implement strategies based on Ayurvedic preventive principles like Dinacharya, Ritucharya, and Rasayana therapy to promote community health and well-being.
PSO5	Uphold ethical standards, patient confidentiality, and a compassionate approach in healthcare delivery while engaging in lifelong learning and professional development.

K.S.V.A. MEDICAL COLLEGE
PRINCIPAL
GANGOH (SAHARANPUR)

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U: www.sug.ac.in

Course Outcomes (COs)
1st Professional

Course: Padarth Vigyan

Course Outcomes	Statement
CO 1	Illustrate the scope and utility of Ayurveda
CO 2	Explain Philosophical foundation of Ayurveda, Principles (Siddhantha) of Darshana along with their similarities and relevance in Ayurveda and contemporary sciences.
CO 3	Analyse and interpret Padartha (Prameya) in Darshana and Ayurveda. Recognize their applications in Ayurveda.
CO 4	Distinguish, analyse and apply concept of Pramana shastra (Epistemology) in Darshana and Ayurveda. Demonstrate their applications in Ayurveda.
CO 5	Analyse and apply concept of Karya Karana Bhava in Ayurveda.

Course: Rachana Sharira

Course Outcome	Statement
CO 1	Describe the fundamentals of Rachana Sharir, interpret and analyze it in relevant context and recognize its significance in Ayurveda
CO 2	Explain Garbha Sharir and Embryology in Ayurveda and modern science respectively with clinical significance
CO 3	Describe and demonstrate all the bones and joints with attachments of associated structures and its clinical application
CO 4	Explain the concept of Sira-Dhamani-Strotas,their organization in the human body and its applied aspect
CO 5	Identify the Marmas and understand its classification along with its

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

	importance in preventive and therapeutic aspect
CO 6	Explain and demonstrate the gross anatomy of the organs of various systems and their applied anatomy in perspective of Ayurveda and Modern science
CO 7	Explain the Indriya Sharir and Sensory organs with its application in preventive and therapeutic domain.
CO 8	Identify and locate all the structures of body and mark the topography of the living Sharir
CO 9	Respect the cadaver and perform dissection with commitment to reiterate the theoretical aspect of Ayurved Rachana Sharir and contemporary sciences
CO10	Describe the basic principles of imaging technologies and identify the anatomical structures in the radiograph

Course: Samhita Adhyayan-1

Course Outcomes	Statement
CO 1	Distinguish the different Samhitas, their importance and methodology and familiarize with the tools of Samhita Adhyayan. (eg: tantrayukti)
CO 2	Interpret and apply the sutras from the Samhitas. P
CO 3	Apply and evaluate the Tridosha, Saptadhatu and Mala principles (theory).
CO 4	Practice and prescribe Dincharya (daily regimen), Ritucharya (seasonal regimen) and dietary principles for preservation of healt
CO 5	Explore and distinguish different types of food, food groups and medicinal dravyas mentioned in Samhitas.
CO 6	Identify various etiopathological factors and predict different treatment principles

S.K. Pathak
PRINCIPAL

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

CO 7	Recognize and explain the fundamentals behind various therapeutics (Shodhan and allied) and parasurgical therapies.
CO 8	Develop a code of behavior and show mature behaviour in particular to the scientific deliberations.

Course: Sanskrit

Course Outcomes	Statement
CO 1	Read and recite Prose (गद्य:) and poem (पद्य:) with the appropriate accent
CO 2	Apply various Technical Terms in Ayurveda (पररभाषाशब्दा:), Nouns & Pronouns (नामरूपानण तथा सर्यनामरूपानण), Verbs (धातुरूपानण), suffixes (प्रत्यया:), Grammatical Terms (सांज्ञा), Syntax (सांधी) and Compounds (समासा:) from Sanskrit Grammar for enhanced interpretation of Ayurveda texts
CO 3	Discriminate and interpret the Cases & meanings (नर्भक्तत्यथय) used in various verses of Ayurveda texts
CO 4	Formulate the Prose order (अन्रय:) of Slokas/Sutras in Ayurveda Textbooks (सांनहता) to derive the meaning (र्◌ाच्याथय), to determine the scientific Meaning (शास्त्राथय) and to Translate (Regional or other language).
CO 5	Interpret the Synonyms (पयाययाा:) and Derivations (ननरुनि) of Ayurveda terms using samskrita dictionaries
CO 6	Speak, Write and Summarize and Express in Samskrit
CO 7	Develop the ethical responsibility towards the profession, society and human being.
CO 9	Appreciate the status of Ayurveda in different time periods and contributions made by different Acharyas to Ayurveda.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Kriya Sharira

Course Outcomes	Statement
CO1	Explain all basic principles & concepts of Kriya Sharir along with essentials of contemporary human physiology and biochemistry related to all organ systems.
CO 2	Demonstrate and communicate normal and abnormal variables pertaining to Kriya Sharir such as Sara, Agni, Koshtha, Srotas etc.
CO 3	Differentiate between Prakriti and Vikriti in the individuals after carrying out relevant clinical examinations.
CO 4	Carry out clinical examination and experiments using equipments with interpretation of their results
CO 5	Differentiate the strengths & limitations of Ayurved and contemporary sciences
CO 6	Present a short project work / research activity covering the role of Kriya Sharir in preventive and promotive healthcare.
CO 7	Show a sense of curiosity and questioning attitude towards the life processes and to display compassion and ethical behaviour
CO 8	Effectively communicate verbally and in writing preferably using Ayurvedic terminology along with contemporary terminology among peers, teachers and community

Course Outcomes (COs)

2nd Professional

Course: Rasa Shastra and Bhaishajya Kalpana

Course Outcomes	Statement
CO 1	Demonstrate application of principles of Ayurvediya Aushadhi Nirmana (Ayurvedic Pharmaceutics)
CO 2	Demonstrate application of principles of Ayurvediya Aushadhi Prayoga Vigyana (Clinical Pharmacology)
CO 3	Prepare Ayurvedic formulations in adherence to quality control parameters for raw materials, in-process and finished products

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel +91 7830810052
E-mail registrargangoh@shobhituniversity.ac.in
U www.sug.ac.in

CO 4	Justify rationality of selection and administration of Ayurvedic formulations
CO 5	Demonstrate application of ethical, legal and regulatory aspects of manufacturing and sale of Ayurvedic formulations.
CO6	Appraise research in current and emerging trend in Ayurvedic pharmaceuticals and allied sciences.

Course: Dravyaguna Vigyan

Course Outcomes	Statement
CO 1	Demonstrate the application of principles of Dravyaguna in clinical practice.
CO 2	Analyze and justify the fundamental principles of Dravyaguna in relevance to contemporary sciences.
CO 3	Analyze and interpret Rasa Panchaka of Dravya with their application in clinical practice.
CO 4	Interrelate the knowledge on Karma (pharmacological actions) with Rasa panchaka and basic contemporary clinical pharmacology.
CO 5	Demonstrate and Justify the ability to select the specific Dravyas, Prashata Bheshaja with different dosage forms in different clinical conditions.
CO 6	Demonstrate knowledge of quality control methods of drug
CO7	Demonstrate knowledge and skills about Apamishrana (adulterants), Abhava pratinidhidravya (substitutes), Prashastabheshaja (ideal drug) and plant extracts.
CO 8	Identify the medicinal plants and orient about conservation, cultivation, sustainable utilization & Pharmacovigilance
CO 9	Demonstrate fundamental principles of applied Pharmacology

S.K. Pathak

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Roganidana

Course Outcomes	Statement
CO 1	Identify the morbidities in accordance with principles of Ayurveda pathology (vikriti vigyan siddhanta)
CO 2	Describe the basic, general, and systemic pathological process thereby applying it in reaching a diagnosis
CO 3	Perform appropriate clinical examination (pareeksha) utilizing Ayurveda and contemporary principles (samakalina siddhanta)
CO 4	Order and interpret various diagnostic laboratory investigations and imaging
CO 5	Diagnose and present the case with clinical reasoning (naidanika tarka)
CO 6	Follow and advise advancements in diagnosis (vyadhi vinischaya) and prognosis (sadhya asadhyata) in clinical practice (naidanika adhyayana)
CO7	Communicate effectively with the patient (rugna), relatives (bandhujan) and other stakeholders (anya hita dhaaraka)
CO 8	Demonstrate ethics (sadvritta), compassion (karuna) and possess qualities of a clinician (vaidya guna)

Course: Agad Tantra

Course Outcomes	Statement
CO 1	Demonstrate application of fundamental concepts of Agada Tantra, Vyavahara Ayurveda and Vidhi vaidyaka in real life situations.
CO 2	Diagnose and manage acute and chronic poisoning due to Sthavara, Jangama and Kritrima visha along with their contemporary relevance.
CO 3	Demonstrate application of concepts of Dushivisha, Garavisha and Viruddha ahara in prevention, diagnosis and management of diseases.

S.K. Pathak
PRINCIPAL

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

CO 4	Demonstrate application of principles of Agada Tantra and therapeutic administration of common Agada yoga and Visha dravya in Clinical practice.
CO 5	Appreciate research updates in relevance to Agada Tantra and apply for healthcare promotion and social awareness
CO 6	Demonstrate application of professional skills of Forensic Medicine in handling medico legal issues.
CO 7	Demonstrate professional and ethical behavior in discharging the medico legal duties and responsibilities in abidance to the law.

Course: Samhita Adhyayan Ii

Course Outcomes	Statement
CO 1	Justify the Methodology of structuring samhitas and appraise the importance of tools of decoding Charakasamhita (Tantrayukti and vyakhyana)
CO 2	Relate and interpret various references of concepts in Charakasamhita
CO 3	Explain and interpret biological factors and their measurements in the manifestation of diseases.
CO 4	Explain and utilize various siddhantas in different dimensions of clinical practice
CO 5	Demonstrate the knowledge of dravya and adravya based therapeutics.
CO 6	Apply diagnostic guidelines regarding diseases including arishta lakshana based on the principles mentioned in Charakasamhita
CO 7	Explore the determinants of health in the background of Charakasamhita.
CO 8	Develop ethical professional and moral codes and conducts as a physician.

S.K. Pathak

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Swasthavritta

Course Outcomes	Statement
CO 1	Demonstrate application of principles of Swasthavritta in lifestyle modifications
CO 2	Assess the health status and advise preventive & promotive measures according to Ayurveda principles
CO 3	Demonstrate and advise Yoga and Naturopathy as health promotive and disease preventive regimen
CO 4	Understand and apply the principles and components of primary health care and health policies to achieve the goal of health for all
CO 5	Advocate and propagate preventive principles of Ayurveda and contemporary sciences through Information, Education and Communication (IEC).
CO 6	Conduct community surveys and apply epidemiological principles for the assessment of health & morbidity as a community physician
CO 7	Understand and apply the principles of environmental health and its effects on public health with control measures
CO 8	Demonstrate skills and research aptitude for the promotion of health and prevention of diseases

Course Outcomes (COs)
3rd Professional

Course: Shalakya Tantra

Course Outcomes	Statement
CO1	Demonstrate clinical application of anatomy and physiology of the Netra, Karna, Nasa, Mukha, Shiras.
CO2	Identify and understand Nidana-panchaka of diseases in Shalakyatantra according to Ayurveda and contemporary medical science. (Rogapareeksha)

PRINCIPAL

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

CO3	Conduct appropriate clinical examinations using various diagnostic and imaging techniques, along with appropriate instrument usage and interpretation, as per Ayurveda and contemporary medical sciences.
CO4	Present the cases related to Shalakyatantra with clinical reasoning (Naidanika Tarka) along with prognosis (Sadhya-asadhyata) in clinical practice.
CO5	Acquire a knowledge of principles of treatment and various therapeutic measures related to Shalakyatantra, according to Samhitas and contemporary medical science.
CO6	Perform appropriate therapeutic measures related to Shalakyatantra and seek or refer for expert opinion whenever needed.
CO7	Communicate effectively with the patient, relatives and other stakeholders.
CO8	Demonstrate ethics (Sadvrutta), compassion (Karuna) and possess qualities of a clinician (Vaidyaguna).

Course: Shalya Tantra

Course Outcomes	Statement
CO 1	Apply knowledge, critical thinking, and analytical skills for diagnosis and management of Shalya Tantra conditions with relevant contemporary science.
CO 2	Demonstrate the common surgical and parasurgical procedures competently
CO 3	Demonstrate adequacy of patient care through effective communication and interpersonal skills.b
CO 4	Promote awareness of Ayurvedic surgical practices within the community, advocating for healthcare policies that integrate traditional and modern surgical practices
CO 5	Select, and apply appropriate methods /procedures and resources in patient management related to computing technical tools with an understanding of the limitations of Ayurveda and modern medicine.

S. K. Pathak

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

CO 6	Recognize surgical emergencies and trauma cases, coordinate resuscitative measures and manage accordingly or by referral for expert care at the optimum time.
CO7	Demonstrate professionalism with high ethical standards, imbibing the leadership quality, and be committed to continuous improvement of skills and knowledge in the field of Shalya Tantra research.

Course: Kayachikitsa

Course Outcomes	Statement
CO1	Appraise the knowledge of health and diseases along with principles and practices of Kayachikitsa in various ailments of adult population in alignment with Trisutra concept
CO 2	Integrate the application of multidisciplinary sciences, tools and techniques for a biopsychosocial approach towards diagnosis, prognosis & management of diseases including anukta roga to restore dhatusamya.
CO 3	Construct treatment plans/protocols applying yukti in accordance with the Chikitsa sutra including pathya apathya with appropriate documentation adhering to legal, safety and regulatory standards
CO 4	Demonstrate the application of Rasayana and Vajikarana as prophylactic, therapeutic, restorative and palliative medicine
CO 5	Perform various skills (Karma Kaushalya) in dealing with Atyayika Avastha including first aid and primary management.
CO 6	Demonstrate self directedness in pursuit of new advancements in the field of biomedical research and government health care policies
CO7	Demonstrate agility, virtuous, ethical behaviour, compassion and communicate effectively with patients, relatives, and stakeholders about the prognosis and treatment including informed consent.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Panchkarma

Course Outcomes	Statement
CO1	Describe the fundamental concepts of Panchakarm.
CO 2	Identify and describe drugs, dose, instruments and their method of application in Panchakarma procedures
CO 3	Analyze the clinical applications of each procedure based on fundamental principles
CO 4	Illustrate comprehensive knowledge of Panchakarma procedures with appropriate and sequential Purva Karma, Pradhana Karma and Paschat Karma
CO 5	Demonstrate skills in performing procedures in various situations
CO 6	Assess the therapeutic efficiency and manage complications
CO 7	Utilize technological advancements and allied therapeutic interventions
CO 8	Possess qualities of a good Communicator and ethical Clinician & Researcher

Course: Research Methodology and Medical Statistics

Course Outcomes	Statement
CO1	Explain and utilize research methods and statistical concepts
CO 2	Distinguish, analyse and apply research types. Recognize their application in ayurveda.
CO 3	Explore and utilize various databases and guidelines.
CO 4	Distinguish, analyse and apply statistical tests. Recognize their application in ayurveda.
CO 5	Apply ethical aspect in conducting quality research.

PRINCIPAL

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Kaumarabhritya

Course Outcomes	Statement
CO 1	Evaluate normal growth and development and its deviation in children.
CO 2	Diagnose and manage Bala Roga (Paediatric diseases) using both Ayurveda principles and contemporary medical science
CO 3	Demonstrate knowledge and skills in assessing and intervening child health through Ayurveda with research updates.
CO 4	Demonstrate effective communication skills to build a good rapport with child/care taker that encourage participation in the shared decision making for the child health care.
CO 5	Formulate Ayurveda methods of building good health and immunity for a child
CO 6	Construct the ability to customize the Ahara and Vihara with respect to Vaya, Ahara Prakarana, Prakruti and Roga Avasta of the child
CO 7	Demonstrate the skill of handling the child and perform the Panchakarma in Balaroga.
CO 8	Advocate the child rights, Respect the diversity and abide to the ethical and legal code of conduct in the child health care

Course: Stri evam Prasuti

Course Outcomes	Statement
CO 1	Explain anatomy, physiology, neuro-endocrinology of reproduction and implement Garbhini Paricharya (Antenatal care), Garbha Samskara to achieve Shreyasi Praja (healthy progeny) and minimize maternal morbidity and mortality
CO 2	Explain Youvanavastha(Puberty), Kishoravastha(Adoloscence) and Rajonivrutti(Menopause). Diagnose Yonivyapad (Gynecological disorders), Artava vyapad(Menstrual disorders), Vandhyatva

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

	(Infertility), StanaRoga with integration of Ayurveda principles and Scientific advances for holistic management.
CO 3	Perform Sthanika upakrama (in-situ treatment), Panchakarma and Surgical procedures and implement drug interventions ethically ensuring patient safet
CO 4	Perform Normal labor, anticipate Obstetric emergencies and ensure timely referral.Manage Sutika (normal puerperium) and Sutika Vyapad (abnormal puerperium). Postpartum counseling on contraceptives.
CO 5	Participate in National maternal health programs and comprehend the medicolegal aspects related to Prasuti tantra and Stree Roga including the MTP ACT and PC-PNDT ACT.Demonstrate professional ethics, communication skills with compassionate attitude, engage in clinical research embracing the principles of lifelong learning and professional development.

S.K. Pathak
PRINCIPAL

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U: www.sug.ac.in

School of Ayurveda (KSVAMC&RC)

Doctor of Medicine (Kayachikitsa)

Program Outcomes, Program Specific Outcomes & Course Outcomes
(POs, PSOs & COs)

Program Outcomes

Program Outcome		Statement
PO 1	Knowledge Mastery	Demonstrate advanced and integrated knowledge of Ayurvedic principles, diagnostic techniques, and chikitsa siddhantas across various systemic disorders.
PO 2	Clinical Competence	Apply Ayurvedic and conventional clinical examination methods and therapeutic interventions effectively in diagnosing and treating patients.
PO 3	Multidisciplinary Integration	Integrate Ayurvedic wisdom with modern diagnostic and treatment modalities such as ECG, MRI, USG, and pathology to improve patient outcomes.
PO 4	Research Skills	Conduct independent research using both classical Ayurvedic methods and contemporary scientific research techniques, including clinical trials and data analysis.
PO 5	Ethical and Legal Awareness	Practice with full awareness of medical ethics, legal frameworks, patient rights, and clinical responsibilities, including the use of consent forms and IEC/AEC guidelines.
PO 6	Health Program Participation	Contribute to National Health Programs and AYUSH campaigns, promoting Ayurveda in public healthcare and preventive medicine.
PO 7	Communication and Education	Effectively communicate clinical knowledge and research findings, and educate patients and peers using scientific writing and presentations.
PO 8	Emergency and Critical Care Management	Manage critical care situations and medical emergencies using Ayurvedic and contemporary protocols in ICU and field settings.
PO 9	Lifelong Learning and Innovation	Engage in continuous learning and innovation through advances in Rasayana, Vajikarana, Panchakarma, and emerging diseases.
PO 10	Evidence-Based Practice	Utilize data from clinical research, statistics, and biostatistical software (SPSS/GraphPad) to inform and refine clinical practice.
PO 11	Interdisciplinary Collaboration	Collaborate with healthcare professionals from different systems and specializations for holistic patient care and research.
PO 12	Environmental and Public Health Awareness	Address Janapadodhwamsa Vikaras and environmental diseases, contributing to disaster management and public health resilience.

S.K. Patnaik

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional Area Gangoh, Distt. Saharanpur (U.P.) 247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U: www.sup.ac.in

Program Specific Outcomes (PSOs)

Program Specific Outcome	Statement
PSO 1	Apply Nidana, Chikitsa, Panchakarma, and Rasayana therapies in diseases related to Pranavaha, Annavaha, Rasavaha, Raktavaha, and other srotasas.
PSO 2	Diagnose and manage Vishishta Rogas including neurological, metabolic, autoimmune, psychiatric, and infectious diseases using Ayurveda and conventional medicine.
PSO 3	Design and execute research studies in Ayurveda incorporating modern tools, ethical compliance, data analysis, and publication strategies.
PSO 4	Demonstrate proficiency in using specialized therapeutic strategies like Vajikarana, Rasayana, stem cell research, immunomodulators, and rehabilitation.

Course Outcomes (COs)
1st Year

Course: Kayachikitsa Preliminary

Course Outcomes	Statement
CO 1	CO - 1 Fundamental concepts of Kayachikitsa: Understand and analyze the fundamental concepts of *Kayachikitsa* such as Vriddhi, Kshaya of Dosha-Dushya, Agni, Ama, Srotodushti, Khavaigunya, and Dosha Gati, aiding in accurate pathogenesis interpretation.
CO 2	CO - 2 Dosha Gati, Aavarana, Ashayapakarsha, Rogamarga, Kriyakala: Apply principles of Amshaamsha Kalpana, Ashayapakarsha, Aavarana, and Rogamarga to comprehend disease progression and therapeutic targeting through Kriyakala.
CO 3	CO - 3 Rogi-Roga Pariksha: Demonstrate comprehensive clinical skills in Rogi-Roga Pariksha using traditional methods like Ashtavidha, Dashavidha, Shadvidha, Trividha, and Prakrityadi Dashavidha Pariksha for accurate diagnosis and prognosis.
CO 4	CO - 4 Chikitsa Siddhanta of Major Srotovikara: Implement Chikitsa Siddhanta in the management of systemic diseases related to

S.K. Rattan

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel. +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U: www.sug.ac.in

	Pranavaha, Annavaha, Udakavaha, Rasadi Dhatuvaha, Malavaha, and Manovaha Srotas.
CO 5	CO - 5 Emergency Medicine: Evaluate and manage medical emergencies such as acute asthma, MI, stroke, electrolyte imbalance, etc., with an integrative approach combining Ayurveda and emergency medicine protocols.
CO 6	CO - 6 Medical Procedures: Exhibit competency in performing essential medical procedures like infusions, catheterization, CPR, lumbar puncture, and use of devices like Ryle's tube, including understanding of water seal drainage.
CO 7	CO - 7 Diagnostic Tools (ECG, X-ray, CT, etc.): Interpret diagnostic tools like ECG, TMT, Echo, Doppler, EEG, EMG, X-Ray, USG, CT, MRI, PET, and correlate findings with clinical diagnosis and Ayurvedic principles.
CO 8	CO - 8 Ayurvedic Formulations: Prescribe and rationally use Ayurvedic formulations (e.g., Churna, Vati, Guggulu, Rasaushadhi, Kashaya, Asava-Arista, Taila, Ghrita, Lehya) in disease-specific treatments, based on *Vyadhi* and *Rogi Bala*.
CO 9	CO - 9 Aushadha Sevana Kala, Anupana, Pathya-Apathya: Integrate Anupana, Pathya-Apathya, and Aushadha Sevana Kala scientifically in treatment to enhance efficacy and ensure holistic recovery.
CO 10	CO - 10 Introduction of the basic principles of other systems of medicine: Analyze and compare the foundational concepts of Modern medicine, Homeopathy, Unani, Siddha, Tibetan Medicine, Yoga, and Naturopathy, and assess their relevance in Ayurvedic disease management for interdisciplinary understanding.

Course: Research Methodology & Medical Statistics

Course Outcomes	Statement
CO 1	CO - 1 Fundamentals of Research in Ayurveda: Understand the concept and process of research and Anusandhan, its relevance and application in Ayurveda, and formulate research problems and hypotheses effectively.
CO 2	CO - 2 Research Process: Gain skills in designing a research protocol including observational and interventional studies, defining objectives, selecting appropriate sample design, and conducting ethical research involving human and animal subjects.
CO 3	CO - 3 Proposal Writing: Develop competency in preparing research proposals, especially for AYUSH and EMR schemes, and navigate funding opportunities for Ayurvedic research.
CO 4	CO - 4 Scientific Writing & Publication Ethics: Acquire knowledge and hands-on skill in scientific writing and publication, following CONSORT guidelines, proper referencing methods, and IMRAD structure for articles and dissertations.

PRINCIPAL
GANGOH (SAHARANPUR)

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U: www.sug.ac.in

CO 5	CO - 5 Clinical & Classical Research Techniques: Explore Ayurvedic classical methods of research including Pramana, Pariksha paddhati, and compare these with contemporary research methodologies for holistic application.
CO 6	CO - 6 Drug Research and Quality Assessment: Identify and differentiate among fields of research in Ayurveda such as fundamental, literary, drug-based, clinical, and understand toxicological and pharmacological assessment techniques using AYUSH, WHO, and OECD guidelines.
CO 7	CO - 7 Drug Discovery Techniques and Quality Standards: Demonstrate understanding of newer drug discovery techniques and development processes including rational approaches, systems biology, and cell-based assays, with awareness of quality standards like GMP and GLP.
CO 8	CO - 8 Clinical Research Methodology and Trial Designs: Apply principles of clinical research methodology including study designs (RCTs, cohort, cross-sectional), adaptive trials, and GCP, with the ability to handle bias and errors in research.
CO 9	CO - 9 Bioinformatics, Pharmacovigilance, and Intellectual Property: Understand bioinformatics tools and databases (PubMed, Scopus, etc.), pharmacovigilance for ASU drugs, and fundamentals of Intellectual Property Rights and TKDL for traditional knowledge preservation.
CO 10	CO - 10 Medical Statistics and Data Analysis in Ayurvedic Research: Utilize medical statistical tools and techniques, including data collection, descriptive and inferential statistics, hypothesis testing, regression analysis, and SPSS/GraphPad for Ayurvedic clinical and experimental research.

Course Outcomes (COs)
2nd & 3rd Year

Course: Fundamentals of Kayachikitsa

Course Outcomes	Statement
CO 1	CO - 1 Rogi-Roga Pariksha and Diagnostic Techniques: Demonstrate proficiency in Rogi-Roga Pariksha using Nidana Panchaka, Trividha, Ashtavidha, and Dashavidha Pariksha, and integrate modern clinical methods and diagnostic advancements.
CO 2	CO - 2 History Taking and Systemic Examination: Perform comprehensive history taking and systemic examination correlating Ayurvedic diagnostic principles with modern clinical practice.
CO 3	CO - 3 Interpretation of Modern Diagnostic Tests: Interpret common diagnostic tests such as ECG, TMT, Echo, Spirometry, X-Ray, USG,

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

	CT, MRI, EEG, and EMG, in light of clinical symptomatology and Ayurvedic understanding.
CO 4	CO - 4 Principles and Application of Ayurvedic Chikitsa: Explain and apply types and principles of Chikitsa in Ayurveda, including Shodhana, Shamana, Rasayana, and Vajikarana, for disease prevention, management, and rejuvenation.
CO 5	CO - 5 Ayurveda in National Health Programmes: Understand and critically analyze National Health Programmes, recognizing the prospective role of Ayurveda in public healthcare, disease prevention, and rehabilitation.
CO 6	CO - 6 Medical Ethics, Legal Compliance, and Patient Safety: Follow medical ethics, laws, and regulations applicable to clinical practice, ensuring patient safety, confidentiality, and legal compliance in Ayurvedic and integrative medicine.
CO 7	CO - 7 Basic Medical Procedures: Exhibit competence in performing basic medical procedures like Ryle's tube feeding, catheterization, paracentesis, transfusions, and orthopedic tractions, integrating Ayurvedic therapeutic support.
CO 8	CO - 8 Ayurvedic Dietetics and Disease-Specific Nutrition: Apply the principles of Ayurvedic Dietetics, including Pathya, Apathya, and Anupana, in disease-specific dietary management and recovery promotion.
CO 9	CO - 9 Pharmacovigilance and Management of Drug Reactions: Recognize and manage drug-drug interactions, adverse drug reactions (ADRs), and iatrogenic disorders, while considering both Ayurvedic and modern pharmacovigilance.
CO 10	CO - 10 Holistic and Integrative Clinical Decision Making: Synthesize Ayurvedic and modern knowledge to enhance clinical judgment, patient care, and treatment outcomes, maintaining a holistic and patient-centered therapeutic approach.

Course: Samanya Roga Chikitsa

Course Outcomes	Statement
CO 1	CO - 1 Ayurvedic Understanding of Srotogata Vyadhi: Demonstrate deep understanding of Ayurvedic concepts of Srotogata Vyadhi, including Nidana, Samprapti, and Chikitsa Siddhanta of each affected Srotas system.
CO 2	CO - 2 Diagnosis and Management of Pranavaha Srotas Disorders: Diagnose and manage disorders of Pranavaha Srotas like Shwasa, Kasa, Hikka, and correlate with modern cardio-respiratory diseases such as COPD, Asthma, Pneumonia, and Heart diseases.
CO 3	CO - 3 Management of Annavaha Srotas Vikara: Identify and treat diseases of Annavaha Srotas such as Ajirna, Amlapitta, Grahani, and

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional Area Gangoh, Distt. Saharanpur (U.P.) 247341 India
Tel +91 7830810052
E-mail registrargangoh@shobhituniversity.ac.in
U www.siu.ac.in

	relate them to modern gastrointestinal conditions like GERD, APD, and Malabsorption syndromes.
CO 4	CO - 4 Treatment Approaches for Udakavaha Srotas Disorders: Apply principles of Ayurvedic Nidana Parivarjana, Pathya-Apathya, Anupana, and Atyayika Chikitsa in the management of disorders like Trishna, Shotha, Udara, and electrolyte imbalances under Udakavaha Srotas.
CO 5	CO - 5 Management of Rasavaha and Raktavaha Srotas Disorders: Manage systemic inflammatory and hematological diseases under Rasavaha and Raktavaha Srotas, including Jwara, Amavata, Pandu, Kamala, Kushtha, Vatarakta, along with integration of knowledge of autoimmune, allergic, dermatological, and hepatic disorders.
CO 6	CO - 6 Treatment of Mamsa-Medovaha Srotas: Evaluate and treat metabolic and endocrine disorders under Mamsa-Medovaha Srotas such as Sthaulya (Obesity), Medoroga, and Prameha (Diabetes Mellitus) using Shamana, Shodhana, and lifestyle interventions.
CO 7	CO - 7 Ayurvedic Principles in Asthi-Majjavaha Srotas Vikara: Understand and apply Ayurvedic principles in Asthi-Majjavaha Srotas vikara such as Osteoarthritis, Asthikshaya, and Sandhigatavata, correlating with degenerative bone disorders.
CO 8	CO - 8 Management of Shukravaha Srotas: Analyze and address male reproductive disorders like Kalibya and Dwajabhanga under Shukravaha Srotas, using Ayurvedic aphrodisiacs, Rasayana and psychosomatic approaches.
CO 9	CO - 9 Ayurvedic Management of Mutravaha Srotas Vikara: Manage Mutravaha Srotas Vikara like Mutrakrichra, Mutraghata, Ashmari by combining Ayurvedic and conventional approaches to treat UTIs, renal stones, and renal failure.
CO 10	CO - 10 Treatment of Purishvaha Srotas Disorders: Treat Purishvaha Srotas disorders such as Atisara, Pravahika, Krimi, Udavarta, and modern GI disorders like IBS, Enteritis, Ulcerative colitis, using Panchakarma, classical formulations, and diet-regimens.

Course: Vishishta Roga Chikitsa

Course Outcomes	Statement
CO 1	CO - 1 Comprehensive Understanding of Vata Vyadhi and Neurological Correlates: Attain in-depth knowledge of Vata Vyadhi and their Ayurvedic classifications (e.g., Pakshavadha, Gridhrasi, Ardita), with correlation to modern neuromuscular and neurological disorders such as stroke, Parkinson's disease, and epilepsy.
CO 2	CO - 2 Diagnosis and Management of Infectious and Sexually Transmitted Diseases: Diagnose and manage infectious and sexually transmitted diseases (e.g., Sheetala, Masoorika, Syphilis) through

Babu Vijendra Marg, Adarsh Institutional Area Gangoh, Distt. Saharanpur (U.P.) 247341, India
Tel. +91 7830810052
E-mail registrargangoh@shobhituniversity.ac.in
U www.shu.ac.in

	Ayurvedic protocols, along with awareness of conventional strategies and public health importance.
CO 3	CO - 3 Ayurvedic Approach to Manasa Vyadhi and Psychiatric Correlations: Demonstrate understanding of Manasa Vyadhi (Unmada, Apasmara, etc.) and correlate them with psychiatric disorders like schizophrenia, depression, anxiety, and psychosexual conditions for effective integrative care.
CO 4	CO - 4 Ayurvedic Management of Metabolic Disorders: Identify and treat metabolic disorders such as Gout, Atherosclerosis, Obesity, Dyslipidaemia using Ayurvedic principles like Ahara, Vihara, Shamana, Shodhana, and Rasayana Chikitsa.
CO 5	CO - 5 Endocrine Disorders: Ayurvedic and Modern Perspectives: Understand the Ayurvedic and modern management of endocrine disorders, including dysfunctions of pituitary, thyroid, adrenal, and reproductive hormones, using specific formulations and therapies.
CO 6	CO - 6 Management of Parasitic, Infective, and Communicable Diseases: Manage parasitic, infective, and communicable diseases such as Malaria, Dengue, HIV/AIDS, Rabies, Meningitis, using Ayurveda for prevention, immunity enhancement, and supportive treatment.
CO 7	CO - 7 Ayurvedic Insights into Neoplastic Disorders and Cancer Care: Explain Ayurvedic perspectives on neoplastic disorders, and discuss the role of Ayurveda in cancer care, focusing on immunity boosting, Rasayana therapy, and palliative care.
CO 8	CO - 8 Treatment of Autoimmune Disorders through Ayurvedic Principles: Evaluate and treat autoimmune disorders like SLE, Rheumatic fever, and myopathies, using Ayurvedic principles and immune-modulatory Rasayana drugs for long-term management.
CO 9	CO - 9 Poisoning Management: Vishachikitsa and Modern Emergency Care: Manage poisoning cases (e.g., snake bite, chemical, pesticide poisoning) with knowledge of Ayurvedic Vishachikitsa, along with modern emergency protocols.
CO 10	CO - 10 Ayurvedic Perspective on Janapadodhwamsa Vikara and Preventive Health Strategies: Understand Janapadodhwamsa Vikara (epidemics and environmental diseases) and explore their causation and treatment through Ayurveda's preventive and promotive health strategies.

Course: Advances In Kayachikitsa

Course Outcomes	Statement
CO 1	CO - 1 Critical Care and Emergency Management with Ayurvedic Integration: Demonstrate proficiency in the management of critical care and medical emergencies, including ICU protocols, triaging,

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

	field medical services, and integration with Ayurvedic supportive therapy.
CO 2	CO - 2 Hospital Management and Institutional Coordination: Understand and contribute to hospital management strategies, including infrastructure planning, IT applications, manpower coordination, and patient care through effective institutional collaboration.
CO 3	CO - 3 Clinical Research in Kayachikitsa and Evidence-Based Practice: Analyze and interpret clinical research in Kayachikitsa and apply evidence-based Ayurvedic practices in the treatment of systemic and lifestyle disorders.
CO 4	CO - 4 Ayurvedic Management of Emerging Health Challenges: Apply Ayurvedic approaches in managing emerging health challenges like Dengue, Chikungunya, HIV/AIDS, Fibromyalgia, and syndromes of modern lifestyle and environment.
CO 5	CO - 5 Immuno-Modulation and Allergy Management in Ayurveda: Explain the role of Ayurveda in immuno-modulation and allergy management, including autoimmune diseases, and support preventive health through Rasayana therapies.
CO 6	CO - 6 Ethical and Clinical Aspects of Organ Transplantation: Understand the ethical, clinical, and legal aspects of organ transplantation, and recognize Ayurveda's potential in pre- and post-transplant care and rehabilitation.
CO 7	CO - 7 Geriatric and Terminal Care through Ayurveda: Develop a foundational knowledge in Geriatric and terminal care medicine, focusing on Ayurveda's role in age-related disease management, palliative care, and quality-of-life enhancement.
CO 8	CO - 8 Introduction to Gene and Stem Cell Therapies and Ayurvedic Correlations: Acquire basic understanding of gene therapy, stem cell therapy, chromosomal disorders, and explore future integrative applications with Ayurvedic concepts.
CO 9	CO - 9 Application of Diagnostic Markers in Kayachikitsa: Utilize knowledge of radio-isotopes, tumor markers, and disease markers in the diagnosis, prognosis, and assessment of therapy outcomes, with relevance to Kayachikitsa.
CO 10	CO - 10 Research and Innovation in Kayachikitsa and Allied Fields: Explore and engage in independent and collaborative research in Kayachikitsa, including emerging trends in Panchakarma, Rasayana, Vajikarana, and physical medicine & rehabilitation.

M.S.V.A. MEDICAL COLLEGE
PRINCIPAL
GANGOH (SAHARANPUR)

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

School of Ayurveda (KSVAMC&RC)
Doctor of Medicine (Kriya Sharir)

Program Outcomes, Program Specific Outcomes & Course Outcomes (POs, PSOs & COs)

Program Outcomes

Program Outcome		Statement
PO 1	Mastery in Ayurvedic Physiology	Acquire an in-depth understanding of Kriya Sharir and its integration with Tridosha, Dhātu, Mala, and Srotas. Gain comprehensive knowledge of the physiological concepts of Pancamahābhūta, Loka-Purusa Sāmya, and Sāmānya-Viśesa principles and their clinical application.
PO 2	Advanced Understanding of Tridosha and Their Functions	Develop a profound understanding of the Tridosha theory, including the locations (Sthāna), attributes (Guna), and functions (Karma) of Vāta, Pitta, and Kapha, along with their subdivisions and physiological applications. Analyze the role of Tridosha in maintaining health and their impact on Prakrti.
PO 3	In-depth Knowledge of Dhātu and Their Physiology	Gain expertise in the physiology of Dhātus such as Rasa, Rakta, Māmsa, Meda, Asthi, Majjā, and Śukra, along with their formation, functions, and manifestations of imbalances (Vriddhi/Ksaya) in the body. Understand the physiological processes involved in Dhātu Posana and Dhātu Pradosaja Vikāra.
PO 4	Proficiency in Applied Physiology of Ojas, Upadhātu, and Stanya	Develop the ability to understand the physiological roles of Ojas, Upadhātu, and Stanya in health and disease, including their formation, distribution, properties, and clinical significance. Evaluate the manifestations of Vriddhi and Ksaya of Ojas and Stanya in various clinical scenarios
PO 5	Understanding of Agni and Its Role in Digestion and Absorption	Master the principles of Āgni (digestive fire) and its physiological significance in digestion, absorption, and metabolism. Understand the functions of Jātharāgni, Bhūtāgni, and Dhātvagni in the context of digestive processes and the applied physiology of Annavaha Srotās.
PO 6	Integration of Ayurvedic and Modern	Integrate the concepts of Āhāra, Āhārpāchana, and Kostha with modern physiological mechanisms involved in digestion, absorption, and metabolism of nutrients. Understand the role of gastrointestinal tract, digestive juices,

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

	Digestive Physiology	and enzymes in human physiology, and apply these principles in clinical practice.
PO 7	Proficiency in Physiological Mechanisms of Sensory and Special Senses	Develop a detailed understanding of the physiological mechanisms of perception via the Pancajnanendriya and Karmendriya. Study the physiology of Śabda, Sparśa, Rūpa, Rasa, and Gandha perception, and their integration with Manas (mind) and Buddhi (intellect).
PO 8	Expertise in Neuro-Immune-Endocrine Interactions	Gain expertise in the physiology of the nervous system, immune system, and endocrine system, including their roles in maintaining homeostasis, immunity, and hormonal regulation. Understand the physiological effects of hypo- and hyper-secretion of hormones and their clinical implications.
PO 9	Mastery of Reproductive Physiology	Acquire comprehensive knowledge of male and female reproductive physiology, including spermatogenesis, oogenesis, hormonal regulation of the menstrual and ovarian cycles, pregnancy, lactation, and parturition. Apply this knowledge in clinical practice for the diagnosis and management of reproductive health.
PO 10	Clinical Application of Ayurvedic and Modern Physiology	Apply the concepts of Kriya Sharir and modern physiology to the clinical diagnosis and treatment of diseases, including understanding the pathology of gastrointestinal, cardiovascular, respiratory, musculoskeletal, and excretory systems. Integrate modern diagnostic tools with Ayurvedic principles for effective patient care.
PO 11	Research and Evidence-Based Practice in Kriya Sharir	Conduct research in Kriya Sharir by integrating traditional Ayurvedic physiology with modern medical research methods. Develop evidence-based clinical practices and contribute to the academic community with publications, clinical trials, and experimental research on neuro-immune-endocrine systems, stem cells, and biorhythms.
PO 12	Professionalism and Lifelong Learning in Ayurvedic Physiology	Cultivate professionalism and a commitment to lifelong learning in the field of Ayurvedic physiology. Stay updated with recent advances in neuro-immune-endocrine physiology, stem cell research, and bioinformatics, ensuring continuous improvement in clinical practice, research, and patient care.

S.K. Pathak

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U: www.sug.ac.in

Program Specific Outcomes (PSOs)

Program Specific Outcome	Statement
PSO 1	Develop a deep understanding of Tridosha and its application in Kriya Sharir, with a focus on their functional anatomy, attributes (Guna), locations (Sthāna), and specific functions (Karma). Students will demonstrate the ability to apply the principles of Vāta, Pitta, and Kapha in understanding human physiology, Prakrti (individual constitution), and disease management, and utilize Tridosha theory for diagnosis and treatment.
PSO 2	Gain proficiency in integrating Ayurvedic physiological concepts with modern medical physiology to evaluate and manage physiological functions across systems like the gastrointestinal, cardiovascular, respiratory, and endocrine systems. Students will be able to apply modern diagnostic tools in combination with Ayurvedic principles for holistic patient care, emphasizing Agni, Ojas, and Srotas in maintaining health
PSO 3	Demonstrate expertise in the formation, function, and manifestations of imbalances (Vriddhi/Ksaya) of Dhātus, Mala, and Srotas. Students will be skilled in identifying pathophysiological changes related to Rasa, Rakta, Māmsa, Meda, Asthi, Majjā, and Śukra and applying this knowledge to treat Dhātu disorders, Srotodusti, and other Ayurvedic pathologies in clinical settings.
PSO 4	Equip students with advanced knowledge of neuro-immune-endocrine interactions in the body and their relevance to Kriya Sharir. Students will develop the ability to conduct research and analyze neuro-endocrine mechanisms in maintaining homeostasis, immunity, and disease resistance. This will include understanding hormonal regulation, immune responses, and nervous system physiology to apply to clinical practice and improve patient outcomes.

J. K. Pathak

Shobhit University
EDUCATION EMPOWERS
Babai Virendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrar.gangoh@shobhituniversity.ac.in
U: www.su.ac.in

Course Outcomes (COs)
1st Year

Course: Research Methodology & Medical Statistics

Course Outcomes	Statement
CO 1	CO-1 Demonstrate comprehensive understanding of research fundamentals and methodologies in Ayurveda: Learners will be able to define key terms like research and anusandhan, identify the need and significance of research in Ayurveda, and outline the various types of research designs including observational, interventional, qualitative and quantitative studies.
CO 2	CO-2 Apply skills to formulate research proposals and conduct ethical, literature-backed Ayurvedic investigations: Learners will gain the ability to select appropriate research problems, perform critical literature reviews using various databases, define objectives, formulate hypotheses, and prepare detailed research proposals following ethical guidelines.
CO 3	CO-3: Analyze and interpret Ayurvedic drug research with focus on classical and modern laboratory-based methods: Students will be able to describe drug identification techniques, standardization methods, GMP/GLP guidelines, toxicity studies, and latest trends in drug discovery and development using rational approaches.
CO 4	CO-4 Demonstrate proficiency in clinical research methodologies and pharmacovigilance in Ayurveda: Learners will understand clinical trial designs, observational and interventional studies, RCTs, GCP, adaptive trials, and survey research methods. They will also gain insight into pharmacovigilance systems and protocols specific to ASU drugs.
CO 5	CO-5 Utilize statistical methods and tools for Ayurvedic research data analysis and interpretation: Students will apply statistical concepts including central tendency, variability, non-parametric tests, correlation, regression, and sampling methods. They will also gain familiarity with software tools like SPSS for data analysis.

Course: Kriya Sharir Preliminary

Course Outcomes	Statement
CO 1	CO-1 Demonstrate a comprehensive understanding of Ayurvedic physiological theories and principles: Learners will explain the fundamental Ayurvedic theories such as Loka-Purusha Samya, Panchamahabhuta, and Samanya-Vishesha Siddhanta, and

Dr. K. Pathak

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel +91 7830810052
E-mail registrar.gangoh@shobhituniversity.ac.in
U: www.sug.ac.in

	understand their interrelationship in maintaining the balance of health and disease.
CO 2	CO-2 Understand and apply Ayurvedic concepts related to body structure, function, and health: Learners will describe the physiological functions of Dhatu, Mala, Ojas, Srotas, Atma, Manas, Indriya, and Ashtavidha Sara, exploring how these concepts are foundational to maintaining the body's health.
CO 3	CO-3 Explore the digestive processes and the role of Agni in Ayurveda, including its classifications and functions: Learners will explain the process of Ahara Parinama, Aharaparinamakara Bhava, the role of Agni in digestion, and the Dhatuposana theories, relating them to modern concepts of metabolism.
CO 4	CO-4 Integrate Ayurvedic and modern physiological knowledge related to cell and membrane physiology: Learners will understand the essential aspects of cell physiology, including the structure and function of cells, membrane transport mechanisms, and the importance of action potentials and resting membrane potentials.
CO 5	CO-5 Explain homeostasis and genetic regulation in both Ayurvedic and contemporary contexts: Learners will demonstrate the ability to explain homeostasis through negative and positive feedback mechanisms, and how genetic codes and gene expression regulation play critical roles in maintaining physiological balance.
CO 6	CO-6 Analyze modern cardiovascular, respiratory, gastrointestinal, and nervous system physiology. Learners will apply their understanding of the physiological processes in the cardiovascular, respiratory, gastrointestinal, and nervous systems, and compare them with Ayurvedic perspectives on body functions.
CO 7	CO-7 Investigate the physiology of blood, excretion, and endocrine systems in both Ayurvedic and modern contexts: Learners will understand the physiology of blood (including blood cells, plasma proteins, and immunity), excretion mechanisms (urine formation), and the endocrine system, including hormone classification and functions.

S.K. Patnak

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional Area Gangoh, Distt. Saharanpur (U.P.) 247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U: www.su.ac.in

Course Outcomes (COs)

2nd & 3rd Year

Course: Dosa-Dhātu-Mala Vijñāna

Course Outcomes	Statement
CO 1	CO-1 Understand and explain the foundational Ayurvedic concepts of Tridosha, Panchamahabhuta, and Loka-Purusha Sāmya: Learners will be able to describe the theories of Panchamahabhuta, Loka-Purusha Sāmya, and the Sāmānya-Viśesa principle in relation to human physiology and health. They will also examine the mutual relationships between Tridosa, Triguna, and other physiological concepts such as Rtu, Rasa, and Indriya.
CO 2	CO-2 Explore the physiological roles and functions of the three Doshas (Vāta, Pitta, and Kapha) in health and disease: Learners will gain a detailed understanding of the locations, attributes, and functions of each Dosha (Vāta, Pitta, Kapha) and their subdivisions. They will also apply the physiology of Tridosha in relation to their roles in maintaining health, seasonal changes, and disease
CO 3	CO-3: Describe the process of Dhātu nourishment and the physiology of each Dhātu (Rasa, Rakta, Māmsa, etc.): Learners will explain the theories of Dhātu Posana and the role of each Dhātu in the body, including their formation, function, and manifestations of imbalance (Ksaya and Vriddhi). They will also explore the relationship between Dhātu and Dosha in maintaining health.
CO 4	CO-4: Investigate the physiological significance of Ojas, Upadhātu, and their role in health and disease: Learners will describe the formation, distribution, properties, and functions of Ojas and Upadhātu. They will explore the applied physiology of Ojas, including its relationship to immunity, vitality (Bala), and its role in disease prevention.
CO 5	CO-5 Analyze the physiology of Mala, including excretory products like Purīsa, Mutra, and Sveda: Learners will gain a detailed understanding of the physiological processes of excretion, including the formation, properties, and functions of Purīsa (stool), Mutra (urine), and Sveda (sweat). They will also explore the manifestations of imbalance in these excretory products and their physiological significance in health and disease.

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel. +91 7830810932
E-mail: registrargangoh@shobhituniversity.ac.in
U: www.suit.ac.in

Course: Prakrti- Sattva Vijñāna

Course Outcomes	Statement
CO 1	CO-1 Understanding of Deha-Prakrti and Its Influence: Demonstrate comprehensive knowledge of the various definitions, synonyms, and classifications of Deha-Prakrti. Students will be able to identify and analyze the factors influencing Prakrti, classify individuals based on their Deha-Prakrti, and understand the characteristic features of each type. Additionally, they will gain insight into recent advances in the understanding of Prakrti within modern scientific and Ayurvedic frameworks.
CO 2	CO-2: Understanding of Pancajnanendriya and Sensory Physiology Outcome: Students will learn the physiological descriptions of the Pancajnanendriya (the five sensory organs) and the mechanisms by which the body perceives sound (śabda), touch (sparśa), form (rūpa), taste (rasa), and smell (gandha). They will also understand the physiological function of Karmendriya (organs of action) and the concept of Indriya-panca-pancaka in the perception process.
CO 3	CO-3 Analysis of Manas and Its Functions Outcome: Students will be able to define and describe the location, properties, functions, and objects of **Manas**. They will understand how Manas influences cognition, emotion, and decision-making processes, and how it integrates sensory inputs with mental and emotional functions :
CO 4	CO-4 Comprehension of Ātmā and Its Relation to Paramātmā and Jīvātmā: Outcome: Students will acquire a clear understanding of the nature of Ātmā, its properties, and its distinction from Paramātmā and Jīvātmā. They will be able to explain the characteristics of Ātmā as an eternal, unchanging entity and explore its role in the context of individual existence versus universal consciousness.
CO 5	CO-5 Physiology of Cognitive Functions, Sleep, and Communication: Outcome: Students will understand the physiology of sleep, special senses, speech, and articulation, along with cognitive functions like intelligence, memory, learning, and motivation. They will also study the physiological basis of pain and temperature perception, and understand the significance of Nidrā (sleep) and the clinical and physiological implications of different types of sleep, including Svapnotpatti and Svapnabheda.

Course: Koshtanga Kriya Vigyana

Course Outcomes	Statement
CO 1	CO-1 Understand the role of Āhāra in health and disease, including its classification and digestion process: Learners will be able to define Ahāra, explain its significance, and classify different types of Āhāra. They will also comprehend the Āhāra-vidhi-vidhāna, Astu

S.K. Rathaur

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel. +91 7830810052
E-mail: rejistrargangoh@shobhituniversity.ac.in
U: www.sug.ac.in

	āhāravidhi viśesāyatana, and Āhāraparināmakara bhāva, while exploring its influence on health and disease.
CO 2	CO-2 Analyze the physiological aspects of Agni and its role in digestion and metabolism: Learners will understand the importance of Agni, its classification, and its functions. They will describe the locations and properties of Jātharāgni, Bhūtāgni, and Dhātvagni, and explore the applied physiology of Agni in digestion (Āhārapāka) and clinical practices.
CO 3	CO-3 Explore the physiology of the gastrointestinal tract and its role in digestion and absorption: Learners will describe the physiological mechanisms of digestion and absorption of fats, carbohydrates, and proteins, including the roles of digestive juices, enzymes, and various organs such as the stomach, pancreas, small intestine, and liver.
CO 4	CO-4 Investigate the role of Annavaha Srotās and its associated disorders in gastrointestinal health: Learners will be able to explain the aetiology and features of Annavaha Srotodusti and understand the physiology of conditions such as Arocaka, Ajīrna, Atīsāra, Grahanī, Chardi, Parināma Śūla, and Agnimāndya.
CO 5	CO-5 Understand the physiological aspects of vitamins and their role in metabolism and health: Learners will be able to describe the classification, sources, daily requirements, and functions of vitamins. They will also understand the physiological basis of hypo and hyper-vitaminosis, including the signs and symptoms of vitamin deficiencies and excesses.

Course: Modern Physiology and Its Applied Aspect

Course Outcomes	Statement
CO 1	CO-1 Understand the physiology of the nervous, endocrine, and immune systems and their interactions: Learners will be able to describe the structure and function of the nervous system, including the central, peripheral, and autonomic nervous systems, and their role in sensory and motor functions. They will explore the physiological mechanisms of hormones from the hypothalamus, pituitary, thyroid, parathyroid, pancreas, and adrenal glands, and their impact on homeostasis.
CO 2	CO-2 Analyze the physiology of the cardiovascular, respiratory, and haemopoietic systems: Learners will gain an understanding of the functional anatomy of the cardiovascular system, including the cardiac cycle, heart rate regulation, and blood pressure control. They will explore respiratory mechanisms, including ventilation, gas

S.K. Pathak
GANGOH (SAHARANPUR)

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional Area Gangoh, Distt. Saharanpur (U.P.) 247341, India
Tel +91 7830810052
E-mail registrargangoh@shobhituniversity.ac.in
U. www.sug.ac.in

	exchange, and control of respiration. Additionally, they will study blood composition, haemopoiesis, and blood clotting mechanisms.
CO 3	CO-3 Explore the physiology of the musculoskeletal system, including the classification and function of muscles: Learners will be able to classify different types of muscles (skeletal, cardiac, and smooth), and understand their electrical and mechanical properties. They will also examine the role of muscle physiology in movement, contraction, and relaxation.
CO 4	CO-4 Understand the physiology of excretion, including renal function and control of micturition. Learners will be able to describe the functional anatomy of the urinary system and the mechanism of urine formation. They will explore the physiological processes involved in the control of micturition, renal function tests, and the role of skin in excretion, including the functions of sweat glands and sebaceous glands.
CO 5	CO-5 Investigate recent advances in neuro-immune-endocrine physiology, stem cell research, and biorhythms: Learners will explore recent research in neuro-immune-endocrine physiology, including advancements in understanding the interactions between the nervous, endocrine, and immune systems. They will also examine the latest studies on biorhythms and stem cell research, and their potential applications in medicine and healthcare.

S.K. Pathak

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel. +91 7830810052
E-mail registrargangoh@shobhituniversity.ac.in
U. www.su.ac.in

School of Ayurveda (KSVAMC&RC)
Master of Surgery (Prasuti Tantra Evum Stree Rog)

Program Outcomes, Program Specific Outcomes & Course Outcomes
(POs, PSOs & COs)

Program Outcomes

Program Outcome		Statement
PO 1	Knowledge Mastery	Demonstrating in-depth knowledge of Prasuti Tantra (obstetrics) and Stree Rog (gynecological disorders) based on Ayurvedic and modern medical sciences.
PO 2	Knowledge Application	Apply Ayurvedic principles to diagnose and manage various obstetric and gynecological conditions effectively.
PO 3	Integrative Thinking	Integrate Ayurvedic and contemporary medical knowledge to provide holistic patient care.
PO 4	Clinical Skill	Exhibit proficiency in performing Ayurvedic procedures such as Garbha Sanskar, Yoniprakshalan, and Uttarbasti.
PO 5	Research Skill	Develop skills in conducting clinical research and contributing to evidence-based Ayurvedic gynecology.
PO 6	Diagnostic Skill	Utilize modern diagnostic tools alongside traditional methods for better patient assessment.
PO 7	Communication & Counseling	Educate and counsel women on reproductive health, antenatal and postnatal care, and menstrual hygiene.
PO 8	Professionalism & Ethics	Demonstrate ethical and professional behavior in clinical practice, research, and patient interactions.
PO 9	Leadership & Teamwork	Exhibit leadership qualities and collaborate effectively in healthcare teams.
PO 10	Pharmacological Skill	Apply Ayurvedic pharmacology (Dravya Guna) for the safe and effective use of herbal and mineral formulations in gynecology.
PO 11	Preventive Care Promotion	Promote Ayurvedic preventive and curative healthcare practices for women's wellness.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U: www.sug.ac.in

PO 12	Lifelong Learning	Continuously update knowledge and skills through lifelong learning and self-improvement.

Program Specific Outcomes (PSOs)

Program Specific Outcome	Statement
PSO 1	Acquire expertise in Ayurvedic obstetrics and gynecology to provide specialized healthcare services.
PSO 2	Perform Ayurvedic therapeutic procedures and interventions with precision.
PSO 3	Conduct independent research and contribute to the advancement of Ayurvedic gynecology.
PSO 4	Develop proficiency in teaching and training students in Ayurvedic obstetrics and gynecology.

Course Outcomes (COs)
1st Year

Course: Prasuti Tantra Evum Stree Roga

Course Outcomes	Statement
CO 1	CO-1 Understanding Panchabhauthika sharira: Concept of Dosha,Dhatu and Pancha mahabhuta and its relevance.
CO 2	CO-2 Rasa panchaka: Analyzing the concept of Rasa panchaka, their effects on the body and its clinical application
CO 3	CO-3 Vrana and Vrana Dushti: Understanding concept of Vrana, its Classification,Wound care management
CO 4	CO- 4 Yantra Sastra: Concept of Yantra Sastra, methods, types and its practical application
CO 5	CO-5 Astavidha Sastrakarma: Concept, its signification, principles, technique and application of Astavidha sastra karma.

S.K. Pathak
PRINCIPAL

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registraargangoh@shobhituniversity.ac.in
U: www.sug.ac.in

CO 6	CO-6 Explain the Ayurvedic concepts of fetal development and maternal health.
CO 7	CO-7 Maternal Care: Demonstrate knowledge of Ayurvedic prenatal and postnatal care.
CO 8	CO-8 Integrating Ayurveda with Modern Obstetrics: Correlate Ayurvedic obstetric principles with modern obstetric practices.
CO 9	CO-9 Ayurvedic Gynecology Essentials: Understand the Ayurvedic etiology and pathophysiology of gynecological disorders.
CO 10	CO-10 Ayurvedic Women's Health Solution: Diagnose and manage conditions such as PCOS, infertility, and menstrual disorders using Ayurvedic principles.
CO 11	CO-11 Ayurvedic Therapy: Demonstrate proficiency in Ayurvedic therapeutic interventions like Yoniprakshalan and Uttarbasti.
CO 12	CO-12 Diagnostic Technique: Integrate modern diagnostic techniques with Ayurvedic treatments for better patient outcomes.
CO 13	CO-13 Ayurvedic Reproductive wellness: Counsel patients on diet, lifestyle, and herbal therapies for reproductive health.

Course: Research Methodology in Ayurveda

Course Outcomes	Statement
CO 1	CO-1 Research Methods: Develop a thorough understanding of research methods in Ayurveda.
CO 2	CO-2 Clinical Research: Design and conduct clinical studies related to Ayurvedic obstetrics and gynecology.
CO 3	CO-3 Data Analysis: Analyze data and apply statistical tools for Ayurvedic research.
CO 4	CO-4 Publication: Publish research findings in reputed journals and conferences.
CO 5	CO-5 Integration of Research Principles: Integrate research-based evidence into Ayurvedic clinical practice.

S.K. Pathak

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel. +91 7830810052
E-mail registrargangoh@shobhituniversity.ac.in
U. www.sug.ac.in

Course Outcomes (COs)
2nd & 3rd Year

Course: Ayurvedic Obstetrics

Course Outcomes	Statement
CO 1	CO-1 Principles of Ayurvedic Obstetrics: Comprehend the principles of Prasuti tantra, including conception, pregnancy, childbirth and postpartum care.
CO 2	CO-2 Ayurveda and Maternal Health: Explain the Ayurvedic concepts of fetal development and maternal health.
CO 3	CO-3 Maternal Care: Demonstrate knowledge of Ayurvedic prenatal and postnatal care.
CO 4	CO-4 Ayurveda in Obstetric care: Identify and manage common obstetric complications using Ayurvedic interventions.
CO 5	CO-5 Postpartum care: Provide postpartum care, including lactation support and newborn care, using Ayurvedic principles.
CO 6	CO-6 Ayurvedic Obstetric Procedures: Perform Ayurvedic procedures related to obstetrics such as Garbha Sanskar and Sutika Paricharya.
CO 7	CO-7 Integrating Ayurveda with Modern Obstetrics: Correlate Ayurvedic obstetric principles with modern obstetric practices.

Course: Ayurvedic Gynecology

Course Outcomes	Statement
CO 1	CO-1 Principles of Ayurvedic Obstretrics: The principles of Stree roga, including the concepts of Artava and Stree sukra
CO 2	CO-2 Ayurvedic Gynecology Essentials: Understand the Ayurvedic etiology and pathophysiology of gynecological disorders.
CO 3	CO-3 Ayurvedic Women's Health Solution: Diagnose and manage conditions such as PCOS, infertility, and menstrual disorders using Ayurvedic principles.

S.K. Pathak

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U P)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

CO 4	CO-4 Understanding Menstrual Health: Understanding the Ayurvedic concepts of Menstrual Health, including different stages of menstrual cycle and menstrual health
CO 5	CO-5 Ayurvedic Therapy: Demonstrate proficiency in Ayurvedic therapeutic interventions like Yoniprakshalan and Uttarbasti.
CO 6	CO-6 Diagnostic Technique: Integrate modern diagnostic techniques with Ayurvedic treatments for better patient outcomes.
CO 7	CO-7 Ayurvedic Reproductive wellness: Counsel patients on diet, lifestyle, and herbal therapies for reproductive health.

Course: Research Methodology in Ayurveda

Course Outcomes	Statement
CO 1	CO-1 Research Methods: Develop a thorough understanding of research methods in Ayurveda.
CO 2	CO-2 Clinical Research: Design and conduct clinical studies related to Ayurvedic obstetrics and gynecology.
CO 3	CO-3 Data Analysis: Analyze data and apply statistical tools for Ayurvedic research.
CO 4	CO-4 Publication: Publish research findings in reputed journals and conferences.
CO 5	CO-5 Integration of Research Principles: Integrate research-based evidence into Ayurvedic clinical practice.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel. +91 7830810052
E-mail registrargangoh@shobhituniversity.ac.in
U. www.sug.ac.in

School of Ayurveda (KSVAMC&RC)
Department of Anatomy (M.D-Rachna Sharir)

Program Outcomes, Program Specific Outcomes & Course Outcomes
(POs, PSOs & COs)

Program Outcomes

Program Outcome		Statement
PO 1	Comprehensive Knowledge	Develop an in-depth understanding of Ayurvedic concepts of Rachna Sharir, correlating with modern anatomical sciences.
PO 2	Analytical Skills	Enhance the ability to critically analyze classical texts and contemporary research in Ayurvedic anatomy.
PO 3	Research Aptitude	Cultivate the skills required to conduct high-quality research, including study design, data analysis, and interpretation.
PO 4	Clinical Application	Integrate anatomical knowledge into clinical practice, improving diagnostic and therapeutic approaches.
PO 5	Pedagogical Skills	Prepare to teach and mentor students in Ayurvedic institutions, applying effective teaching methodologies
PO 6	Ethical Practice	Promote ethical conduct and compassionate care in professional practice.
PO 7	Interdisciplinary Collaboration	Foster the ability to collaborate with practitioners of other medical disciplines for holistic healthcare.
PO 8	Communication Skills	Develop strong communication skills for conveying complex anatomical concepts to diverse audiences.
PO 9	Leadership and Advocacy	Encourage leadership in advancing Ayurveda and advocating for its integration into mainstream healthcare.
PO 10	Lifelong Learning	Inspire a commitment to ongoing learning and adaptation to advancements in medical sciences.

S.K. Pathak
PRINCIPAL

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Program Specific Outcomes (PSOs)

Program Specific Outcome	Statement
PSO 1	Mastery of Rachna Sharir:-Acquire profound knowledge of Ayurvedic anatomical concepts, including Marma, Srotas, and Kala.
PSO 2	Comparative Analysis: -Develop competence in comparing and integrating Ayurvedic anatomical knowledge with modern anatomy.
PSO 3	Skill Development:-Enhance practical skills in dissection, specimen preparation, and interpretation of anatomical structures.
PSO 4	Contribution to Ayurveda: - Generate original research and scholarly contributions to the field of Ayurvedic anatomy.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel. +91 7830810052
E-mail registrargangoh@shobhituniversity.ac.in
U: www.sug.ac.in

Course Outcomes (COs)
1st Year

Course: Rachana Shareera Preliminary

Course Outcomes	Statement
CO 1	CO-1 Fundamental principles of Sharira: Explain and interpret fundamental principles of Sharira as described in classical Ayurvedic texts such as the Sushrut Samhita, Charak Samhita, Ashtang Sangrah, and Ashtang Hridaya.
CO 2	CO-2 Ayurvedic concept of purusha: Analyze the Ayurvedic concepts of Purusha, including Shad Dhatuj Purusha, Chaturvimshati Purusha, and other classifications relevant to anatomical understanding.
CO 3	CO-3 Garbha Sareera: Demonstrate a clear understanding of Garbha Sharira, including embryological theories like Shukra-Shonita Siddhanta, Dauhrida, and maternal contributions (Matrijadi Bhava).
CO 4	CO-4 Histological aspect of different organs: Identify and describe various human tissues and perform basic histological analyses of organs such as liver, kidney, spleen, uterus, endocrine glands, and nervous tissues.
CO 5	CO-5 Anatomical terminologies: Use proper anatomical terminology (Paribhasha Sharira) and apply concepts of Pramana Sharira to assess bodily dimensions and their diagnostic significance.
CO 6	CO-6 Systemic Anatomical study: Explain structural and functional aspects of major anatomical systems and structures including bones (Asthi), joints (Sandhi), muscles (Peshi), vessels (Sira, Dhamani), and body channels (Srotas).
CO 7	CO-7 Koshta Koshtanga Sareera: Understand and locate Koshtha and Koshthang, including vital internal organs like Hridaya, Yakrit, Vrikka, Amashaya, etc., as per Ayurvedic anatomy.
CO 8	CO-8 Uttamangiya Sareera: Describe the Uttamangiya Sharir (head and nervous system), its development, structural units (neurons), and functional anatomy from an Ayurvedic and modern perspective.
CO 9	CO-9 Mrita Shodhan and Mrita Samrakshana: Demonstrate knowledge of post-mortem examination procedures as described by Sushruta including Mrita Shodhan and cadaver preservation techniques (Mrita Samrakshana).

PRINCIPAL

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7840810052
E-mail: registrar.gangoh@shobhituniversity.ac.in
U: www.su.ac.in

Course Outcomes (COs)
2nd and 3rd year

Course: Garbha Sharir

Course Outcomes	Statement
CO 1	CO-1 Etymology of garbhavakranthi: Understand the etymology and foundational concepts of Garbhavakranti Sharira.
CO 2	CO-2 Understanding of Garbhotpadaka bhavaas: Explain the features and significance of Shukra, Shonita, Beeja, Beejbhaga, and Beejbhagavyava.
CO 3	CO-3 Garbha poshana: Describe the sequential process of Garbha Poshana and the role of Garbhavriddhikar Bhava.
CO 4	CO-4 Masanumasaki garbhavriddhi: Analyze the monthly fetal development (Masanumasiki Garbhavriddhi) and fetal circulation.
CO 5	CO-5 Laksanas: Explain physiological signs in Ritumati and Sadhyah Grihita Garbha.
CO 6	CO-6 Abnormal Pregnancies: Discuss types of abnormal pregnancies such as Yamal Garbha and Anasthi Garbha.
CO 7	CO-7 Basic and systemic embryology interpretation: Interpret basic and systemic embryology in Ayurvedic and modern perspectives.
CO 8	CO-8 Genetics and teratology:Acquire basic understanding of Anuvanshiki (Genetics) and Garbhajavikara (Teratology).

S.K. Pathak

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt Saharanpur (U P)
247341, India
Tel +91 7830810052
E-mail registrargangoh@shobhituniversity.ac.in
U www.su.ac.in

Course: Koshthanga, Sira, Dhamani, Srotas Sharira

Course Outcomes	Statement
CO 1	CO-1 Koshta and koshtanga: Describe the etymology and structure of Koshtha and Koshthanga, including reproductive organs.
CO 2	CO-2 Asaya: Define and explain the structure and function of Ashaya.
CO 3	CO-3 Saptha Kala:Describe the seven Kala with modern anatomical equivalents and applied aspects.
CO 4	CO-4 Paribhasha Sareera: Explain Paribhashika Sharira terms like Snayu, Kandara, Rajju, Sanghata, and Jala.
CO 5	CO-5 Sira,dhamani, sroto sareera: Classify and describe Sira, Dhamani, and Srotas, including their clinical relevance
CO 6	CO-6 Vedhya avedhya Sira: Understand and distinguish Vedhya and Avedhya Sira and their practical applications.

Course: Marma, Asthi, Sandhi, Peshi Sharira

Course Outcomes	Statement
CO 1	CO-1 Marma Sareera: Define Marma, and describe its features, types, and classifications per Sushruta and Charaka.
CO 2	CO-2 Marma Applied aspects:Analyze the importance of Marma Abhighata and its surgical relevance in Shalyatantra.
CO 3	CO-3 Asthi Sareera: Explain structure, types, and ossification of bones (Asthi) with applied anatomical aspects.
CO 4	CO-4 Sandhi sareera: Describe types, features, and anatomical relevance of joints (Sandhi).
CO 5	CO-5 Peshi Sareera: Understand the structure, types, and clinical significance of muscles (Peshi).

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Tantra Sharira, Antah and Bahih Granthi Vigyaniya

Course Outcomes	Statement
CO 1	CO-1 Indriya Sareera: Describe structure and function of Panchgyanendriya from Ayurvedic and modern perspectives.
CO 2	CO-2 Shad chakra: Explain the concept and significance of Shat Chakra, Ida, Pingala, and Sushumna Nadi.
CO 3	CO-3 Neuroanatomy: Understand structure and function of the brain, spinal cord, and peripheral nervous system.
CO 4	CO-4 Venous supply of brain: Explain venous sinuses, ventricular system, and blood supply of the brain with applied anatomy.
CO 5	CO-5 Endocrinology: Describe structure and function of Antahsravi (endocrine) and Bahihsravi (exocrine) glands.

S.K. Pathak

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sup.ac.in

School of Ayurveda (KSVAMC&RC)
Doctor of Medicine (Ayurveda Samhita & Siddhant)

Program Outcomes, Program Specific Outcomes & Course Outcomes
(POs, PSOs & COs)

Program Outcomes

Program Outcome		Statement
PO 1	Knowledge Mastery	Demonstrate comprehensive understanding of Ayurvedic principles, concepts, and methods.
PO 2	Knowledge Application	Apply critical thinking and problem-solving skills to diagnose and manage various health conditions using Ayurvedic approaches.
PO 3	Integrative Thinking	Communicate effectively with patients, healthcare professionals, and other stakeholders about Ayurvedic principles and practices.
PO 4	Clinical Skill	Demonstrate a commitment to lifelong learning and professional development in the field of Ayurveda.
PO 5	Research Skill	Integrate Ayurvedic principles and practices into modern healthcare systems and settings.

Program Specific Outcomes (PSOs)

Program Specific Outcome	Statement
PSO 1	Analyze and interpret Ayurvedic texts, including Samhita, to understand the fundamental principles and concepts of Ayurveda.
PSO 2	Apply Tantrayukti and Tantraguna to evaluate the authenticity and validity of Ayurvedic texts and practices.
PSO 3	Demonstrate expertise in Manuscriptology, including collection, conservation, cataloguing, and critical editing of Ayurvedic manuscripts.

S. K. Pathak
PRINCIPAL

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel. +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

PSO 4	Apply Bija Chatustaya and Nyaya to diagnose and manage various health conditions using Ayurvedic approaches.
PSO 5	Integrate Ayurvedic principles and practices into clinical settings and research studies.

Course Outcomes (COs)
1st Year

Course: Samhita Siddhant evam Sanskrit

Course Outcomes	Statement
CO 1	CO- 1 Define and explain the fundamental principles and concepts of Ayurveda, including Tantrayukti and Tantraguna.
CO 2	CO -2 Analyze and interpret Ayurvedic texts, including Samhita, to understand the historical and philosophical context of Ayurveda.
CO 3	CO - 3 Demonstrate an understanding of the importance and utility of Samhita in Ayurvedic studies and practice.
CO 4	CO - 4 Describe and explain the principles and methods of Manuscriptology, including collection, conservation, cataloguing, and critical editing.
CO 5	CO - 5 Demonstrate skills in handling and preserving Ayurvedic manuscripts.
CO 6	CO- 6 Apply critical thinking and problem-solving skills to analyze and interpret Ayurvedic manuscripts.
CO 7	CO-7 Define and explain the concept of Bija Chatustaya and its application in Ayurvedic diagnosis and treatment.
CO 8	CO-8 Describe and explain the principles of Nyaya and their application in Ayurvedic reasoning and analysis.
CO 9	CO-9 Demonstrate an understanding of the importance and utility of Bija Chatustaya and Nyaya in Ayurvedic practice.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.suu.ac.in

Course Outcomes (COs)
2nd & 3rd Year

Course: - Samhita Siddhant evam Sanskrit

Course Outcome	Statement
CO 1	CO-1 In-depth understanding of Charaka Samhita: Analyze and interpret the Charaka Samhita with Ayurveda Dipika commentary by Chakrapani.
CO 2	CO-2 Familiarity with commentaries: Identify and describe various commentaries on Charaka Samhita.
CO 3	CO -3 Comprehensive knowledge of Sushruta Samhita: Understand the Sutra Sthana and Sharir Sthana (1st chapter) of Sushruta Samhita with Nibandha Samgraha commentary.
CO 4	CO-4 Understanding of Ashtanga Hridayam and Ashtanga Sangraha: Analyze the Sutra Sthana of Ashtanga Hridayam and Ashtanga Sangraha with respective commentaries.
CO 5	CO-5 Awareness of commentaries: Identify and describe various commentaries on Sushruta Samhita, Ashtanga Hridayam, and Ashtanga Sangraha.
CO 6	CO-6 Understanding of Indian philosophical principles: Analyze and apply Indian philosophical principles mentioned in Charaka Samhita, Sushruta Samhita, Ashtanga Hridayam, and Ashtanga Sangraha.
CO 7	CO-7 Analysis of key principles: Examine and interpret key principles, such as Chaturvidha Siddhanta, Lokapurusha Samya, and others.
CO 8	CO-8 Clinical application: Apply philosophical principles to clinical practice, understanding the importance of Satkaryavad and Asatkaryavad.
CO 9	C0-8 In-depth knowledge of Ayurvedic classics: Demonstrate a comprehensive understanding of Charaka Samhita, Sushruta Samhita, Ashtanga Hridayam, and Ashtanga Sangraha.

PRINCIPAL

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel. +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U : www.suj.ac.in

School of Ayurveda (KSVAMC&RC)
Master of Surgery (Shalya Tantra)

Program Outcomes, Program Specific Outcomes & Course Outcomes
(POs, PSOs & COs)

Program Outcomes

Program Outcome	Graduate Attributes	Statement
PO 1	Basic Knowledge Application	Comprehensive Understanding of Surgical Principles: Students must understand and apply principles from both Ayurvedic and modern surgical domains.
PO 2	Problem-Solving Skills	Advanced Diagnostic and Treatment Expertise: Diagnosis and treatment involve application of knowledge, analysis of patient condition, and evaluating the best course of action.
PO 3	Innovation and Design	Research-Oriented Surgical Practice: Research demands critical analysis, interpretation of data, and development of new insights or techniques.
PO 4	Effective Communication	Ethical and Legal Proficiency: Requires comprehension of guidelines and the ability to evaluate scenarios legally and ethically.
PO 5	Teamwork and Leadership	Professional Communication and Presentation Skills: Involves applying communication skills and creating presentations or documentation.
PO 6	Ethical Decision-Making	Informed Surgical Decision-Making: Decision-making integrates analysis of evidence and evaluation of outcomes.
PO 7	Lifelong Learning	Application of Modern Techniques in Ayurvedic Surgery: Involves the use and assessment of technologies within the Ayurvedic context.
PO 8	Societal Awareness	Surgical Skills and Knowledge Application: Practical application of skills and analysis of case-specific surgical techniques.

Sk. Patnaik

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U: www.sug.ac.in

Program Specific Outcomes (PSOs)

Program Specific Outcome	Statement
PSO 1	Integration of Ayurveda and Modern Surgery: Master the integration of traditional Ayurvedic surgical practices (e.g., Kshara Karma, Agnikarma) with modern surgical techniques for treating a wide range of surgical conditions.
PSO 2	Comprehensive Wound and Trauma Management: Acquire the ability to manage traumatic injuries and chronic wounds, incorporating Ayurvedic principles like Vrana (wound) management with modern wound care practices.
PSO 3	Surgical and Parasurgical Expertise: Gain proficiency in both surgical and parasurgical procedures, including advanced techniques such as Kshara Karma, Agnikarma, and Raktamokshana (bloodletting).
PSO 4	Ethical and Informed Surgical Care: Understand the ethical dimensions of surgery, including patient autonomy, informed consent, and the medico-legal aspects of surgical practice.
PSO 5	Advanced Diagnostics in Shalya Tantra: Master diagnostic tools, including modern imaging techniques (e.g., MRI, X-rays, USG), alongside Ayurvedic diagnostic methods (e.g., Prakriti, Pariksha), for effective treatment planning.
PSO 6	Comprehensive Disease Management: Develop a comprehensive approach for managing surgical conditions, from abdominal disorders to specialized surgical procedures for rectal, urological, and reproductive issues.
PSO 7	Research and Evidence-Based Practices in Surgery: Develop the ability to conduct, interpret, and apply research findings to continuously improve surgical practices and outcomes in both Ayurveda and modern surgery.
PSO 8	Specialized Surgical Interventions: Acquire knowledge and skills for performing specialized surgical interventions such as reconstructive surgeries, hernia repairs, and the treatment of tumors and fractures.
PSO 9	Innovative Surgical Procedures: Understand and apply advanced surgical techniques, such as laparoscopy, endoscopy, and minimally invasive approaches, to enhance patient outcomes with reduced recovery times.
PSO 10	Holistic Approach to Surgical Treatment: Integrate holistic healing methods, including Ayurvedic therapies, with conventional medical treatments for enhanced patient recovery and wellness.

S.K. Patnaik

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel. +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)
1st Year

Course: - Research Methodology

Course Outcomes	Statement
CO 1	CO-1 Informed research decisions: Demonstrates decision-making based on acquired knowledge, understanding various research types.
CO 2	CO-2 Literature review for research gaps: Conduct a comprehensive literature review to identify research gaps and define areas for future study
CO 3	CO-3 Critical literature appraisal: Evaluate and appraise the literature to assess research gaps and the necessity for new studies.
CO 4	CO-4 Design Ayurveda research protocols: Design and conduct research protocols using appropriate study designs and develop effective assessment tools tailored for Ayurveda.
CO 5	CO-5 Ethical and regulatory compliance: Implement and monitor ethical and regulatory guidelines throughout the research process.
CO 6	CO-6 Ethical and regulatory compliance: Prepare and disseminate research findings through presentations, publications in indexed journals and other professional platforms adhering to publication ethics.
CO 7	CO-7 Clear and professional presentations: Deliver impactful presentations of research projects to peers, demonstrating clarity, analysis, and professional communication.
CO 8	CO-8 Use of IT in research: Utilize information technology tools to enhance research capabilities, manage observations, and improve analytical accuracy.
CO 9	CO-9 Advanced tools in Ayurvedic research: Apply advanced instrumentation and modern techniques in Ayurvedic research to elevate study quality, accuracy and integrity.

Course: Biostatistics

Course Outcomes	Statement
CO 1	CO-1 Apply descriptive & inferential statistics: Demonstrate application of principles of Descriptive and Inferential Statistics in research.

S.K. Pathak
PRINCIPAL

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U: www.sug.ac.in

CO 2	CO-2 Use appropriate statistical tests: Demonstrate use of appropriate statistical tests in research.
CO 3	CO-3 Analyze & present data with tools/software: Analyze and present research data using suitable statistical methods, tools, and software.
CO 4	CO-4 Interpret statistical data from publications: Evaluate and interpret statistical data from research papers and publications.

Course: Fundamental Principles and Applied Aspects of Shalya Tantra

Course Outcomes	Statement
CO 1	CO-1 Understand the Scope, Definition, and Principles of Shalya Tantra: Students will grasp the origin, definition, and importance of Shalya Tantra in both Ayurvedic and modern surgical contexts.
CO 2	CO-2 Integration of Sushruta Samhita with Modern Surgical Practices: Students will apply the teachings of Sushruta Samhita (1st-29th Sutra Sthana) alongside modern surgical methodologies.
CO 3	CO-3 Applied Anatomy, Physiology, and Pathology in Surgery: Students will integrate principles of anatomy, physiology, and pathology to assess and treat surgical conditions using Ayurvedic and modern approaches.
CO 4	CO-4 Diagnosis Using Ayurvedic Pariksha Methods and Prakriti: Students will apply Ayurvedic diagnostic techniques (e.g., Trividha, Shadvidha) and Prakriti analysis in surgical patient assessment and treatment planning.
CO 5	CO-5 Management of Surgical Emergencies, Shock, and Infections: Students will manage surgical emergencies, shock, sepsis, and other critical conditions using Ayurvedic and modern interventions
CO 6	CO-6 Surgical Pharmacology and Fluid Management: Students will demonstrate knowledge of antibiotics, analgesics, electrolyte balance, and fluid therapy in surgical practice.
CO 7	CO-7 Advanced Surgical Techniques: Kshara Karma, Agnikarma, and Shastra Karmas: Students will apply Kshara Karma, Agnikarma, and Shastra Karmas for treating surgical conditions and improving recovery.
CO 8	CO-8 Practical Surgical Skills and Medico-legal Aspects: Students will acquire hands-on experience in surgical procedures, emergency care, and understand medico-legal requirements and proper documentation in surgical practice.

S.K. Pathak

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel. +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U: www.sug.ac.in

Course Outcomes (COs)
2nd & 3rd Year

Course: Shalya Tantra Vangmaya – Literature, Research and Development

Course Outcomes	Statement
CO 1	CO-1 Surgical Expertise: Understand and apply the concept and application of Sandhana Karma (Plastic and Reconstructive Surgery) techniques like Auroplasty, Rhinoplasty, Cheiloplasty, and use of grafts and flaps in plastic and reconstructive surgery.
CO 2	CO-2 Research and Evidence-Based Practices: Learn the importance of surgical audits for quality improvement and understand the methods of conducting surgical research, contributing to evidence-based surgical practices.
CO 3	CO-3 Legal and Ethical Proficiency: Medico-Legal Aspects of Surgery: Understand the legal framework around acts of omission and commission, implications of the Consumer Protection Act, National Health Policy, and medico-legal issues like accidents and assaults in medical practice.
CO 4	CO-4 Clinical and Diagnostic Methods in Shalya Tantra: Master modern diagnostic tools such as X-rays, Ultrasound (U.S.G.), MRI, Endoscopy, and CAT scans, and integrate them into diagnostic and treatment planning in Shalya Tantra.
CO 5	CO-5 Surgical Ethics and Informed Consent: Grasp the ethical principles of surgery, focusing on informed consent, patient autonomy, and transparent decision-making, ensuring ethical practices in surgical procedures.

Course: Shalya Tantra Vigyan

Course Outcomes	Statement
CO 1	CO-1 Comprehensive Wound Management: Develop proficiency in managing various types of wounds, including chronic, traumatic, thermal, and diabetic wounds, using modern and traditional principles of treatment.

Sk. Pathak
PRINCIPAL
GANGOH (SAHARANPUR)

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel. +91 7830810052
E-mail. registrargangoh@shobhituniversity.ac.in
U. www.su.ac.in

CO 2	CO-2 Surgical Pathology Knowledge: Acquire expertise in diagnosing and treating surgical conditions such as abscesses, cysts, gangrene, fractures, and tumors, with an understanding of their aetiopathogenesis and clinical features.
CO 3	CO-3 Advanced Surgical Skills: Gain practical skills in the management of complex conditions requiring surgical intervention, such as amputation, gangrene, and foreign body removal.
CO 4	CO-4 Rectal and Urological Disorders: Master the diagnosis and treatment of rectal, anal, and urinary system diseases, including hemorrhoids, fistulas, stones, and urinary retention.
CO 5	CO-5 Specialized Surgical Conditions: Acquire knowledge and skills in treating specific conditions like phimosis, paraphimosis, and prepuceal ulcers, focusing on surgical interventions for reproductive and urological issues.
CO 6	CO-6 Comprehensive Disease Management: Understand the complete diagnostic and treatment process for a wide range of surgical diseases, including abdominal disorders, tumors, fractures, dislocations, and pain syndromes.

Course: Adhunik Shalya Karma – Modern Surgery

Course Outcomes	Statement
CO 1	CO-1 Fundamentals of Modern Surgery: Develop a comprehensive understanding of the fundamentals of surgery, including surgical anatomy, physiology, and pathology, forming the basis for effective surgical management of disorders.
CO 2	CO-2 Diagnosis and Surgical Treatment of Trauma: Gain expertise in the diagnosis and surgical treatment of traumatic injuries involving the head, spine, thoracic trauma, and abdominal trauma, including management of blast injuries.
CO 3	CO-3 Surgical Management of Complex Disorders: Acquire practical skills in the surgical treatment of breast diseases, rectal and anal disorders, oral and esophageal conditions, and abdominal conditions.
CO 4	CO-4 Endoscopic and Laparoscopic Skills: Gain proficiency in performing endoscopic and laparoscopic procedures, enhancing diagnostic and treatment capabilities for various disorders.
CO 5	CO-5 Vascular and Musculoskeletal Disorders: Understand the management of vascular, ligamentous, and musculoskeletal injuries and

Shobhit University
EDUCATION EMPOWERS
Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel. +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

	conditions, enabling effective surgical interventions for tissue repair and restoration.
CO 6	CO-6 Hernia Management: Master the diagnostic and surgical treatment of various types of hernias, from inguinal to umbilical hernias, providing effective surgical care for these common conditions.

Course: Vishishta Shalya Vigyan – Speciality (Anushastra Vigyan – Parasurgical Therapeutics)

Course Outcomes	Statement
CO 1	CO-1 Understanding Kshara Karma (Caustic Therapy): Knowledge of different types of Kshara, their preparation, standardization, pH value, application, complications, and their management in surgical practice.
CO 2	CO-2 Understanding the Surgical Anatomy and Physiology of the Anus and Rectum: Develop a thorough understanding of the surgical anatomy and physiology of the anus and rectum, and its relevance to surgical management.
CO 3	CO-3 Hemorrhoids Management: Gain a comprehensive understanding of hemorrhoids including their aetiopathogenesis, classification, and surgical treatments, such as rubber band ligation, laser therapy, cryosurgery, etc.
CO 4	CO-4 Fistula-in-Ano Management: Gain knowledge about the etiology, diagnostic methods, and surgical managementof fistula-in-ano, including new techniques like fibrin glue and advanced flap therapies.
CO 5	CO-5 Agnikarma (Thermo Therapy) Skills: Learn the principles and applications of Agnikarma therapy, including the use of modern thermal equipment like diathermy, laser therapy, microwaves, and cryotherapy for treating various conditions.
CO 6	CO-6 Raktamokshana (Bloodletting Procedures): Understand the indications, techniques, and therapeutic applications of Raktamokshana, with detailed knowledge of Siravyadhana, Prachana, and Asastrakritha procedures like Jaluka(leeches).
CO 7	CO-7 Understanding Leech Therapy: Gain practical knowledge of Jaluka therapy, focusing on the morphology, physiology, and biochemical effects of leeches, as well as the methodology of leech application in therapy.
CO 8	CO-8 Management of Anal Fissures, Abscesses, and Other Disorders: Understand the management of anal fissures, abscesses, anal stenosis, fistula-in-ano, foreign bodies, and congenital anorectal disorders, along with surgical interventions.

S.K. Pathak
PRINCIPAL

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel +91 7830810052
E-mail registrar.gangoh@shobhituniversity.ac.in
U. www.sug.ac.in

CO 9	CO-9 Congenital Anorectal Disorders: Study the surgical management of congenital anorectal malformations and disorders like anal atresia and others, including their diagnosis and intervention.
CO 10	CO-10 Surgical and Parasurgical Management of Anorectal Tumors: Gain the ability to diagnose and surgically manage anorectal tumors, understanding their types, complications, and treatment strategies.

K.S.V.A. MEDICAL COLLEGE P.G.
PRINCIPAL
GANGOH (SHU) SAHARANPUR

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

School of Biological Engineering & Sciences

Bachelor of Science (Microbiology, Honors)

Program Outcomes, Program Specific Outcomes & Course Outcomes
(POs, PSOs& COs)

Program Outcomes

Program Outcome		Statement
PO 1	Engineering* (Area Specific) Knowledge	Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
PO 2	Problem Analysis	Identify, formulate, research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
PO 3	Design/ Development of Solutions	Design solutions for complex engineering problems and design system components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations.
PO 4	Conduct investigations of complex problems	Conduct investigations of complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions.
PO 5	Modern Tool Usage	Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modelling to complex engineering activities with an under-standing of the limitations.
PO 6	The Engineer* (Area Specialist) and Society	Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice.
PO 7	Environment and Sustainability	Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development

Shobhit University Gangoh
Dean
School of Biological Engg. & Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

PO 8	Ethics	Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
PO 9	Individual and Team Work	Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.
PO 10	Communication	Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions.
PO 11	Project Management and Finance	Demonstrate knowledge and understanding of engineering and management principles and apply these to owners own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 12	Life-long Learning	Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSOs)

Program Specific Outcome	Statement
PSO 1	Graduates will possess a strong foundation in microbiological principles, methodologies, and techniques, enabling them to excel in various researches, industrial, and academics.
PSO2	Graduates adeptly to tackle real-world challenges in microbiology with innovative new technologies and sustainable solutions, develop biotechnological products showcasing critical thinking and problem-solving skills and staying abreast of emerging trends, technologies, and methodologies.
PSO 3	Graduates prioritize ethical microbiological practices, committing to socially responsible and environmentally sustainable research, with a lifelong learning mindset.

Shobhit University Gangoh
Dean
School of Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)
1st Semester

Course: Cell Biology

Course Outcomes	Statement
CO 1	Structural characteristics of prokaryotic and eukaryotic cells.
CO 2	Taxonomy and characteristics of the major kingdoms.
CO 3	Basic concepts of bioenergetics, photosynthesis, and cellular respiration.
CO 4	Nucleic acids and basic concepts of protein synthesis and gene regulation.
CO 5	Mendelian genetics and genetic change.

Course: Introductory Biology

Course Outcomes	Statement
CO 1	Understanding Biological Concepts.
CO 2	Students will develop the ability to apply the scientific method to biological inquiries.
CO 3	Cellular and Molecular Biology Knowledge.
CO 4	Genetics and Heredity Understanding.
CO 5	Biochemical and Metabolic Insights.

Shobhit University Gangoh
Dean
School of Biological Engg. & Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Fundamentals of Biology

Course Outcomes	Statement
CO 1	Understanding Biological Principles and Systems.
CO 2	Proficiency in Scientific Inquiry and Methods.
CO 3	Biochemical and Molecular Biology Insights.
CO 4	Cellular Function and Division Understanding.
CO 5	Comprehending Evolution and Adaptation.

Course: Inorganic & Physical Chemistry

Course Outcomes	Statement
CO 1	Understand periodic properties and its application in the characterization of chemical compounds.
CO 2	Understand the various properties of materials depending upon bond formation.
CO 3	Utilize the concept of hardness in the purification of water for industrial and domestic purpose.
CO 4	Distinguish the rate laws and application to different chemical reaction mechanism.
CO 5	Learn the basic concepts of Chemistry and its application in different fields.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Computer Fundamentals

Course Outcomes	Statement
CO 1	Students will be able to identify computer hardware components and describe their function
CO 2	To identify and describe telecommunication components;
CO 3	Students will be able to compare the roles of different sectors of the information technology.
CO 4	Students will be able to use a hypertext markup language to produce basic Web documents.
CO 5	To describe the characteristics of operating systems and compare different operating systems

Course: Ecology and Environment Management

Course Outcomes	Statement
CO 1	Students will be able to understand the importance of environment.
CO 2	Students will gain new insights about different remediation procedures.
CO 3	Students will be able to understand ecological sustainability, ecological efficiencies, homeostasis and limiting factors.
CO 4	Students will be able to apply the knowledge of scientific methods to solve environmental problems.

Shobhit University Gangoh
Dean

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Professional Communication

Course Outcomes	Statement
CO 1	Sharpen grammatical skills of the students, to facilitate easy choice of available options
CO 2	CO- 2 Construct the vocabulary of the students to assist them acquire plethora of knowledge of foreign as well as indigenous languages.
CO 3	Exhibit competent writing that is reasonably proficient in correct grammar and sentence structure skills.
CO 4	Improve awareness regarding the factors at play when communicating with audience of diverse backgrounds in the global business environment.

Course: Personality Development

Course Outcomes	Statement
CO 1	Students will develop a deeper understanding of their personality traits, strengths, and weaknesses
CO 2	Goal Setting and Personal Development Planning
CO 3	Students will understand the significance of non-verbal communication, including body language, posture, gestures, and facial expressions.
CO 4	Students will gain practical strategies for boosting their self-confidence and self-esteem.

Shobhit University Gangoh
Dean
School of Liberal Arts & Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Personal Grooming

Course Outcomes	Statement
CO 1	Students will develop the necessary soft skills for career success, including networking.
CO 2	The ability to handle workplace challenges.
CO 3	Graduates will be career-ready, equipped with the skills and confidence.
CO 4	Choosen professions, achieve career advancement, and maintain a fulfilling life balance.

Course: Ethics of Research

Course Outcomes	Statement
CO 1	Understand the core ethical principles that govern research practices
CO 2	Identify and resolve ethical issues in research scenarios
CO 3	Evaluate and ensure ethical treatment of animal subjects in research
CO 4	Promote ethical collaboration in international and cross-cultural research settings.

Shobhit University Gangoh
Dean

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: General Proficiency-I

Course Outcomes	Statement
CO 1	Effective communication: The ability to exchange ideas and information in a way that builds trust and respect
CO 2	Critical and analytical thinking: The ability to explore issues and ideas before forming a conclusion
CO 3	Integrative thinking: The ability to synthesize knowledge across different domains and perspectives
CO 4	Preparing students to be engaged citizens: Preparing students to participate in political culture and thrive in a rapidly evolving world

Course: Physical Education & Yoga

Course Outcomes	Statement
CO 1	Use yoga and physical activity to promote mental well-being, stress relief, and emotional balance
CO 2	Demonstrate knowledge of sports injury prevention and provide first aid.
CO 3	Teach and lead others in yoga classes and fitness sessions.
CO 4	Foster a holistic approach to health, combining physical activity, nutrition, and mental wellness

Course: Health & Nutrition

Course Outcomes	Statement
CO 1	Understanding the essential nutrients required for the body, including carbohydrates, proteins, fats, vitamins, and minerals.
CO 2	Nutrition plays a crucial role in enhancing energy levels, muscle recovery, and overall performance.
CO 3	Development of Healthy Eating Habits.
CO 4	With proper nutrition, individuals can achieve and maintain a healthy weight, improve cardiovascular health.

Shobhit University Gangoh
Dean
School of ... Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)
2nd Semester

Course: Organic & Analytical Chemistry

Course Outcomes	Statement
CO 1	Understand the basic concepts of different purification techniques of organic compound
CO 2	Apply basic concepts of organic chemistry in determining the types of organic reactions
CO 3	Categories various types of polymer and their uses.
CO 4	Predict the importance of organic reactions in daily life.

Course: Observational Chemistry

Course Outcomes	Statement
CO 1	Develop Proficiency in Laboratory Techniques
CO 2	Enhance Observational and Analytical Skills
CO 3	Understand and Identify Chemical Reactions
CO 4	CO-4Investigate the Physical Properties of Matter
CO-5	CO-5Conduct Qualitative Analysis of Inorganic Compounds

Shobhit University Gangoh
Dean
School of Biological Engg. & Technology

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Basic & Applied Chemistry

Course Outcomes	Statement
CO 1	Understand the fundamental concepts of atomic structure, chemical bonding, and periodic properties.
CO 2	Apply the principles of thermodynamics and kinetics to analyze chemical reactions and energy changes.
CO 3	Develop problem-solving skills in solutions, equilibrium, and electrochemistry to solve real-world challenges.
CO 4	Demonstrate knowledge of organic and inorganic chemistry in industrial and environmental applications.
CO 5	Utilize analytical techniques and laboratory skills for qualitative and quantitative chemical analysis.

Course: Elements of Biochemistry

Course Outcomes	Statement
CO 1	Students will be able to define biomolecules and buffers.
CO 2	Students will understand the structure and functions of biomolecules.
CO 3	Students will be able to classify and explain the role of various biomolecules in human body.
CO 4	Students will be able to analyze the causes of diseases on biochemical basis.
CO 5	Students will be able to understand various biochemical process and cell metabolism.

Shobhit University Gangoh
Dean

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Fundamentals of Biochemistry

Course Outcomes	Statement
CO 1	Understand the chemical structure, properties, and biological roles of carbohydrates, proteins, lipids, and nucleic acids.
CO 2	Explain enzyme mechanisms, factors affecting enzyme activity, and their significance in metabolic regulation.
CO 3	Understand Metabolic Pathways and Bioenergetics.
CO 4	Illustrate the central dogma of molecular biology, including DNA replication, transcription, translation, and gene expression regulation.
CO 5	Relate biochemical processes to physiological functions, diseases, and clinical applications.

Course: Introductory Human Physiology

Course Outcomes	Statement
CO 1	Explain fundamental physiological concepts, including homeostasis, cell function, and organ system interactions
CO 2	Describe the structure and function of key human organ systems, such as the circulatory, respiratory, nervous, muscular, and digestive systems.
CO 3	Analyze how the human body responds to internal and external stimuli, including the role of the nervous and endocrine systems in regulation.
CO 4	Relate physiological mechanisms to common health conditions and diseases, understanding their impact on homeostasis.
CO 5	Interpret physiological data, analyze case studies, and apply concepts to real-world medical and health-related scenarios.

Shobhit University Gangoh
Dean
School of Biological Engg. & Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Chemicals and Health

Course Outcomes	Statement
CO 1	Explain how different chemicals (natural and synthetic) interact with the human body and impact health.
CO 2	Recognize sources of chemical exposure in everyday life, including food, air, water, and consumer products.
CO 3	Describe how chemicals can cause acute and chronic health effects, including toxicity, bioaccumulation, and long-term diseases
CO 4	Apply Knowledge to Personal and Public Health
CO 5	Understand chemical safety regulations, such as permissible exposure limit, and learn strategies to minimize risks.

Course: Introduction to General Microbiology

Course Outcomes	Statement
CO 1	To understand the structural similarities and differences among microorganisms and the unique structure/function relationships of prokaryotic cells.
CO 2	To understand the science of microbiology, its development and importance in human welfare.
CO 3	To apply laboratory practices used in the study of microorganisms.
CO 4	To recognize and compare structure and function of microbes and factors affecting microbial growth.
CO 5	To explain and apply aseptic microbiological techniques in the laboratory and check sources of microbial contamination and their control.

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Elements of Microbiology

Course Outcomes	Statement
CO 1	Develop an understanding of microbial classification and nomenclature.
CO 2	Gain proficiency in laboratory techniques for culturing, isolating, and identifying microorganisms.
CO 3	Understand the role of microorganisms in disease causation, immunity, and human health.
CO 4	Appreciate the ecological roles of microorganisms in different environments.
CO 5	Learn about the applications of microbiology in industries, medicine, and environmental science.

Course: Chemical Microbiology

Course Outcomes	Statement
CO 1	Have a deep understanding of microbial metabolism and biochemical processes.
CO 2	Be able to apply chemical principles to understand microbial function in health, disease, and the environment
CO 3	Demonstrate proficiency in laboratory techniques related to microbial biochemistry.
CO 4	Be capable of analyzing the effects of various chemicals on microbial growth and activity.
CO 5	Understand the role of microorganisms in industrial applications such as fermentation, antibiotic production, and bioremediation.

Shobhit University Gangoh
Dean
School of Biological Engg. & Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Microbial Technology

Course Outcomes	Statement
CO 1	Understand the principles and applications of microbial technology
CO 2	Comprehend microbial growth and metabolism processes.
CO 3	Apply fermentation technology for industrial production.
CO 4	Master enzyme technology and its applications in various industries
CO 5	Understand microbial genetics and genetic engineering techniques.
CO 6	Apply microbial technology for environmental and agricultural solutions.

Course: Career Skills

Course Outcomes	Statement
CO 1	Enhance the Vocabulary of the students to make them corporate ready.
CO 2	Improve the Logical ability among the students.
CO 3	Discover the key skills required to bridge the gap between campuses and corporate
CO 4	Enhance the problem solving skills of the students.
CO 5	Improve the Quantitative ability of the students.

Shobhit University Gangoh
Dean

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Life Skills

Course Outcomes	Statement
CO 1	Enhanced self-awareness and emotional intelligence for managing personal and interpersonal interactions.
CO 2	Improved communication skills for effective expression and understanding in various contexts.
CO 3	Stronger critical thinking and problem-solving skills to approach real-world challenges effectively.
CO 4	Ability to make informed decisions and set achievable goals for personal and professional growth.
CO 5	Mastery of stress management and resilience-building techniques for coping with pressure and adversity.

Course: General Proficiency-II

Course Outcomes	Statement
CO 1	Effective communication: The ability to exchange ideas and information in a way that builds trust and respect
CO 2	Critical and analytical thinking: The ability to explore issues and ideas before forming a conclusion
CO 3	Integrative thinking: The ability to synthesize knowledge across different domains and perspectives
CO 4	Preparing students to be engaged citizens: Preparing students to participate in political culture and thrive in a rapidly evolving world

Shobhit University Gangoh
Dean
School of Biological Sciences & Technology

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)
3rd Semester

Course: Microbial Genetics

Course Outcomes	Statement
CO 1	Learn different types of plasmids and their applications
CO 2	Apply mechanism of prokaryotic and eukaryotic DNA replication in molecular genetics
CO 3	Understand the mechanism of gene transfer in micro-organisms
CO 4	Comprehend concepts of phages genetics
CO 5	Become familiar about transposons

Course: Inheritance and Evolutionary Biology

Course Outcomes	Statement
CO 1	Learn different types of plasmids and their applications
CO 2	Apply mechanism of prokaryotic and eukaryotic DNA replication in molecular genetics
CO 3	Understand the mechanism of gene transfer in micro-organisms
CO 4	Comprehend concepts of phages genetics
CO 5	Become familiar about transposons.

Shobhit University Gangoh
Dean

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Microbiological Basis of Inheritance

Course Outcomes	Statement
CO 1	Students will be able to define and explain the fundamental laws of genetics
CO 2	Students will be able to understand the main modes of Mendelian and non- Mendelian inheritance
CO 3	Students will acquire knowledge about the chromosome structure, sex linked chromosomes and inherited disorders
CO 4	Students will be able to understand how alterations in chromosome number or structure may cause various types of diseases
CO 5	To describe how mutation is caused in DNA and how DNA damage can be repaired
CO 6	Students will be able to apply their knowledge to healthy and disease contexts.

Course: Food Engineering

Course Outcomes	Statement
CO 1	Students will be able to know about the basics of food technology
CO 2	Students would know about the microorganisms associated with food.
CO 3	Students will understand various principles of food technology.
CO 4	Students will also have knowledge of food preservation methods.

Shobhit University Gangoh
Dean

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Bacteriology & Virology

Course Outcomes	Statement
CO 1	Describe the cell organization of bacteria i.e. morphology, ultrastructure and organelles present in bacterial cells.
CO 2	Describe the nutritional and physical requirements for bacterial growth
CO 3	Describe the principles involved in killing bacteria, and make recommendations on use of physical and chemical methods used to control microbial growth.
CO 4	Describe the dynamics of the growth of a bacterial population and how this growth can be measured.
CO 5	Learn the methods of laboratory diagnosis of viruses using different techniques.
CO 6	Learn about different plant and animal viruses.

Course: Global Ecology

Course Outcomes	Statement
CO 1	Understand and explain fundamental ecological principles, processes, and interactions in the context of global environmental systems.
CO 2	Analyze the impact of human activities on the environment and global ecosystems.
CO 3	Evaluate the causes and consequences of global environmental challenges, including climate change, biodiversity loss, and pollution.
CO 4	Develop and propose sustainable solutions and conservation strategies to address global ecological issues.
CO 5	Use scientific tools and methods, such as GIS, fieldwork, and ecological modeling, to study global ecological problems.

Shobhit University Gangoh
Dean

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Mycology & Phycology

Course Outcomes	Statement
CO 1	Students should be able to know about various groups of fungi and algae.
CO 2	As most of the fungi are seen through naked eyes, students will be able to recognize them.
CO 3	Students will also have an idea about the pros and cons of fungi and algae
CO 4	Students should be able to know about economic importance of fungi and algae.

Course: Public Health and Pandemics

Course Outcomes	Statement
CO 1	Explain key concepts in public health, including epidemiology, disease prevention
CO 2	Analyze the causes, spread, and impact of pandemics while evaluating strategies for prevention, mitigation, and response.
CO 3	Assess the role of governments, health organizations, and communities in managing public health crises.
CO 4	Health Communication and Education – Develop effective strategies for public health messaging.
CO 5	Evaluate ethical dilemmas and public health policies related to pandemic response, including vaccination, lockdowns, and resource allocation.

Shobhit University Gangoh
Dean
School of Biological Engg & Biotech

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Biofertilizers and Biopesticide

Course Outcomes	Statement
CO 1	Learn the basic concept of microbial interactions.
CO 2	Understand the role of microbes as Biofertilizers.
CO 3	Learn basic understanding of role of microbes as bio insecticides.
CO 4	Understanding bio fertilizers and Their Role in Sustainable Agriculture

Course: Biomathematics and Biostatistics

Course Outcomes	Statement
CO 1	Students will understand the use of mathematics and the significance of their application.
CO 2	Students will be able to understand the concept of Biostatistics.
CO 3	Explain the application of probability for Bio Students.
CO 4	Students will be able to understand sampling theory
CO 5	Students will be able to learn Basic concept of Algebra.

Shobhit University, Gangoh
Dean

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Elementary Mathematics

Course Outcomes	Statement
CO 1	Define and appropriately use information technology terms;
CO 2	Describe the essential elements of the computer's architecture and discuss how this architecture functions;
CO 3	Describe the characteristics of operating systems and compare different operating systems;
CO 4	Discuss the general trends in technologies including examples of leading edge developments;
CO 5	Compare the roles of different sectors of the information technology.
CO 6	Describe the characteristics and representations of data, and interpret and compare data in different representations.

Course: General Proficiency-III

Course Outcomes	Statement
CO 1	Effective communication: The ability to exchange ideas and information in a way that builds trust and respect
CO 2	Critical and analytical thinking: The ability to explore issues and ideas before forming a conclusion
CO 3	Integrative thinking: The ability to synthesize knowledge across different domains and perspectives
CO 4	Preparing students to be engaged citizens: Preparing students to participate in political culture and thrive in a rapidly evolving world

Shobhit University Gangoh
Dean
School of Engineering & Technology

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Psychology

Course Outcomes	Statement
CO 1	Define and explain core concepts in psychology, including behavior, mental processes, sensation, perception, and learning.
CO 2	Apply theories from different areas of psychology (cognitive, behavioral, humanistic, etc.) to real-world problems
CO 3	Apply scientific methods to analyze psychological phenomena, conduct research, and interpret data.
CO 4	Explain key psychological theories and principles that influence human thoughts, emotions, and behaviors.
CO 5	Utilize psychological concepts to address real-world issues in mental health, relationships, workplace dynamics, and personal development.

Course: Sociology

Course Outcomes	Statement
CO 1	Understanding Social Structures and Institutions
CO 2	Critical Thinking and Sociological Perspectives
CO 3	Conduct Sociological Research
CO 4	Real-World Application of Sociology
CO 5	Understand Sociological Concepts

Shobhit University Gangoh
Dean

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)
4th Semester

Course: Molecular Biology

Course Outcomes	Statement
CO 1	Students will gain an understanding of molecular biology of nucleus and its effect of functioning of an organism.
CO 2	Students will understand the concepts of DNA, RNA and will develop an insight into the mechanism of DNA replication in the cell.
CO 3	Students will learn about the physiochemical reasons of damage of DNA and their effect on body functioning and will be able to analyze the in vivo mechanism of repair of DNA 11 5 damage and recombination processes.
CO 4	Students will develop an understanding of formation of RNA, different mechanisms in prokaryotes and eukaryotes and processing of final transcriptional products.
CO 5	Students will be able to understand the process of protein formation and its control.
CO 6	Students will be able to analyze the mechanisms of gene expression and its regulation.

Shobhit University Gangoh
Dean
School of Biological Engg. & Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Economic Biology

Course Outcomes	Statement
CO 1	Students will gain an understanding of molecular biology of nucleus and its effect of functioning of an organism.
CO 2	Students will understand the concepts of DNA, RNA and will develop an insight into the mechanism of DNA replication in the cell.
CO 3	Students will learn about the physiochemical reasons of damage of DNA and their effect on body functioning and will be able to analyze the in vivo mechanism of repair of DNA damage and recombination processes.
CO 4	Students will develop an understanding of formation of RNA, different mechanisms in prokaryotes and eukaryotes and processing of final transcriptional products.
CO 5	Students will be able to understand the process of protein formation and its control.
CO 6	Students will be able to analyze the mechanisms of gene expression and its regulation.

Course: Gender Studies

Course Outcomes	Statement
CO 1	To familiarize the students with the terminologies related to Gender studies.
CO 2	To elaborate the concept of patriarchy and its impact on women.
CO 3	To introduce students to the discipline of Women's Studies and Gender Studies and its perspectives.
CO 4	To trace the evolution of Gender Studies from Women's Studies. Learning outcomes.
CO 5	Familiarity with fundamental concepts related to field of women and gender studies.

Shobhit University Gangoh
Dean

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: International Business in Dairy Science

Course Outcomes	Statement
CO 1	Students will be able to know about the microorganisms important in food microbiology.
CO 2	Students would know about the factors influencing microbial growth in food.
CO 3	Students will understand various food borne diseases.
CO 4	Students will also have knowledge of microbiology of milk.
CO 5	Students will understand microorganisms as source of food.

Course: Immunology

Course Outcomes	Statement
CO 1	Students will be able to define and explain the fundamental principles of modern immunology.
CO 2	Students will be able to classify antibodies on the basis of their structures and functions.
CO 3	Students will be able to understand related immunological techniques and apply them in medical laboratory profession.
CO 4	Students will acquire knowledge about processing and presentation of antigens by different methods.
CO 5	Student will be able to understand cell mediated immune response.
CO 6	Students will be able to value role of immune system in different diseases.
CO 7	Students will be able to apply their knowledge to healthy and disease contexts.

Shobhit University Gangoh
Dean
School of Biological Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Anthropology

Course Outcomes	Statement
CO 1	After completion of the course the students will be able to understand the microbial growth in different physiological conditions.
CO 2	Learn the phenomenon of nutrient utilization of microbes.
CO 3	Comprehend the concept of microbial respiration and their metabolism.

Course: Neurobiology

Course Outcomes	Statement
CO 1	Gain a strong foundation in the fundamental principles of neurobiology, including the physiology of neurons, synaptic transmission, and cellular mechanisms.
CO 2	Understand the molecular basis of neural signaling, including ion channels, receptors, and neurotransmitter systems.
CO 3	Identify and describe the key structures of the central and peripheral nervous systems (e.g., brain regions, spinal cord, sensory and motor pathways).
CO 4	Understand how neural circuits and networks contribute to sensory processing, motor control, and higher cognitive functions.

Course: Nanotechnology

Course Outcomes	Statement
CO 1	Understand nanoscale materials: Learn about the unique properties of materials at the nanoscale.
CO 2	Manipulate nanomaterials: Master techniques for synthesizing and manipulating nanomaterials.
CO 3	Develop innovative applications: Create new devices and applications for various sectors.

Dean

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Microbial Physiology & Metabolism

Course Outcomes	Statement
CO 1	Understand the microbial growth in different physiological conditions.
CO 2	Learn the phenomenon of nutrient utilization of microbes.
CO 3	Comprehend the concept of microbial respiration and their metabolism.

Course: Entomology

Course Outcomes	Statement
CO 1	Understand principles, ways of thinking.
CO 2	Modes of analysis in chemistry, physics, and mathematics.
CO 3	Be able to design basic statistical analyses and evaluate basic statistical information.
CO 4	Be able to apply and judge the scientific method in conducting inquiry-based research in the laboratory and in the field.

Course: General Proficiency-I

Course Outcomes	Statement
CO 1	Effective communication: The ability to exchange ideas and information in a way that builds trust and respect.
CO 2	Critical and analytical thinking: The ability to explore issues and ideas before forming a conclusion.
CO 3	Integrative thinking: The ability to synthesize knowledge across different domains and perspectives.
CO 4	Preparing students to be engaged citizens: Preparing students to participate in political culture and thrive in a rapidly evolving world.

Dean

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Agrostology

Course Outcomes	Statement
CO 1	To provide students with a basic understanding of biological principles.
CO 2	To explore the structure and function of living organisms at the molecular, cellular, and systemic levels.
CO 3	To introduce fundamental concepts in genetics, evolution, ecology, and human biology.
CO 4	To foster scientific inquiry and an appreciation for the relevance of biology in daily life, health, and the environment.

Course: Pharmaceutical Microbiology

Course Outcomes	Statement
CO 1	Understand the methods of drug development, production and mechanism of action and delivery.
CO 2	Know the processes involved in manufacturing.
CO 3	Understand biomaterials and their used in pharmaceutical industry.

Course: Medicinal Microbiology

Course Outcomes	Statement
CO 1	To understand the principles of microbiology in relation to human health.
CO 2	To learn about the pathogens causing diseases, their transmission, and pathogenesis.
CO 3	To study antimicrobial agents and their mechanisms of action.
CO 4	To explore diagnostic techniques for infectious diseases.
CO 5	To gain knowledge of emerging infectious diseases and antimicrobial resistance.

Shobhit University Gangoh
Dean
School of Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: I.P.R., Bioethics & Biosafety

Course Outcomes	Statement
CO 1	Students will understand with the importance of intellectual property and its protection under the constitution.
CO 2	Students will be able to classify patent able subject matter under the realm of Biotechnology.
CO 3	Students will be familiar with the basic principles of bioethics.
CO 4	Students will be able to analyze ethical issues related to biotechnology research.
CO 5	Students will be able to apply their knowledge to deal with hazards related to biotechnology and the importance of biosafety in research.

Course: General Proficiency

Course Outcomes	Statement
CO 1	Effective communication: The ability to exchange ideas and information in a way that builds trust and respect
CO 2	Critical and analytical thinking: The ability to explore issues and ideas before forming a conclusion.
CO 3	Integrative thinking: The ability to synthesize knowledge across different domains and perspectives.
CO 4	Preparing students to be engaged citizens: Preparing students to participate in political culture and thrive in a rapidly evolving world

Shobhit University Gangoh
Dean
School of Biological Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Animal Behavior

Course Outcomes	Statement
CO 1	Develop an understanding of fundamental principles and theories related to animal behavior, including key concepts such as innate vs. learned behaviors, proximate vs. ultimate causes, and behavioral ecology.
CO 2	Gain insight into how animal behavior is shaped by both genetic and environmental factors
CO 3	Explore how animal behaviors develop across the lifespan, including the role of imprinting, critical periods, and social learning in the development of complex behaviors.

Shobhit University Gangoh
Dean
School of Biological Engg. & Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)
5th Semester

Course: Medical Microbiology

Course Outcomes	Statement
CO 1	This course provides learning opportunities in the basic principles of medical microbiology and infectious disease.
CO 2	It covers mechanisms of infectious disease transmission, principles of aseptic practice, and the role of the human body"s normal microflora.
CO 3	The course provides the conceptual basis for understanding pathogenic microorganisms and the mechanisms by which they cause disease in the human body.
CO 4	It also provides opportunities to develop informatics and diagnostic skills, including the use and interpretation of laboratory tests in the diagnosis of infectious diseases.
CO 5	To understand the importance of pathogenic bacteria in human disease with respect to infections of the respiratory tract, gastrointestinal tract, urinary tract, skin and soft tissue.
CO 6	Helps to understand the use of lab animals in medical field.
CO 7	Recall the relationship of this infection to symptoms, relapse and the accompany in pathology.
CO 8	Explain the methods of microorganism's control, e.g. chemotherapy & vaccines. Solve problems in the context of this understanding.

Shobhit University Gangoh
Dean
School of Biological Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Medicinal Microbiology

Course Outcomes	Statement
CO 1	Explain the morphology, physiology, and genetics of medically significant microorganisms (bacteria, viruses, fungi, and parasites)
CO 2	Describe the mechanisms of microbial pathogenesis, including host-pathogen interactions and immune responses to infections.
CO 3	Demonstrate knowledge of infectious diseases caused by various pathogens, their clinical manifestations, and methods of prevention.

Course: Recombinant DNA Technology

Course Outcomes	Statement
CO 1	The student will be familiar with the historical background and important milestones, biosafety and bioethics in genetic engineering.
CO 2	The student will be acquainted with tools of RDT like enzymes, vectors and hosts.
CO 3	The student will be acquainted with technical knowhow of gene cloning and expression and factors for optimizing the heterologous gene expression.
CO 4	CO 4- The student will be acquainted with the techniques required for gainful applications of genetic engineering.
CO 5	The student will be able to apply RDT in different domains of life science, medical, agriculture, forensic and allied fields for the welfare of living beings.

Shobhit University Gangoh
Dean
School of Biological Engg. & Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Microbial Technology

Course Outcomes	Statement
CO 1	Explain the role of microorganisms in industrial, environmental, agricultural, and healthcare applications.
CO 2	Describe the principles and techniques of microbial biotechnology, including fermentation, genetic engineering, and bioinformatics.
CO 3	Analyze the applications of microbial enzymes, biofuels, biopolymers, and other bioproducts in various industries

Course: Bio-Analytical Tools

Course Outcomes	Statement
CO 1	Students will learn about the different bio-analytical techniques.
CO 2	Students will be able to use critical thinking skills to trouble shoot problems as they occur and determine possible causes.
CO 3	Students will be able to apply the knowledge of bio analytical techniques to the most commonly performed laboratory practices.

Course: Food and Dairy Microbiology

Course Outcomes	Statement
CO 1	Learn and understand the microbial spoilage of food.
CO 2	Understand the principles and methods of food preservation.
CO 3	Understand the fermented foods and food borne diseases.

Shobhit University Gangoh
Dean
School of Biological Engg. & Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Palentology

Course Outcomes	Statement
CO 1	Demonstrate an understanding of the fundamental principles and concepts of paleontology, including fossil formation, fossilization processes, and the history of life on Earth.
CO 2	Describe the major events in the history of life, including the evolution and extinction of organisms, using evidence from the fossil record.
CO 3	Understand and explain the role of paleontology in reconstructing past climates, ecosystems, and evolutionary processes.

Course: General Proficiency

Course Outcomes	Statement
CO 1	Effective communication: The ability to exchange ideas and information in a way that builds trust and respect.
CO 2	Critical and analytical thinking: The ability to explore issues and ideas before forming a conclusion.
CO 3	Integrative thinking: The ability to synthesize knowledge across different domains and perspectives.
CO 4	Preparing students to be engaged citizens: Preparing students to participate in political culture and thrive in a rapidly evolving world

Shobhit University Gangoh
Dean
School of Biological Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course Outcomes (COs)
6th Semester

Course: Microbiological Analysis of Air and Water

Course Outcomes	Statement
CO 1	Students will become familiar with aero microbiology.
CO 2	Students will be able to learn the collection of air sample and its analysis.
CO 3	Students will be familiarized with the water microbiology and control measures.
CO 4	Students will be able to explain the microbiological analysis of water.

Course: Hospital Management

Course Outcomes	Statement
CO 1	Demonstrate a comprehensive understanding of the healthcare system, hospital operations, and the role of hospital management in the delivery of quality healthcare services.
CO 2	Understand key concepts in healthcare management such as hospital organization, patient care management, healthcare policies, and legal and ethical aspects of hospital administration.
CO 3	Explain the various functional areas of hospital management, including finance, human resources, marketing, information systems, and logistics, and how they contribute to the overall effectiveness of the institution.
CO 4	Apply analytical tools and management techniques to solve operational, financial, and strategic issues in hospital management.
CO 5	Use healthcare data to analyze hospital performance, improve decision-making, and develop strategies to optimize hospital operations and patient care services.

Shobhit University Gangoh
Dean
School of Biological Engg. & Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Soil and Water Microbiology

Course Outcomes	Statement
CO 1	Demonstrate a comprehensive understanding of the types of microorganisms (bacteria, fungi, protozoa, algae, viruses) present in soil and water ecosystems.
CO 2	Identify the different microbial communities in diverse soil and water environments and their role in ecosystem functioning.
CO 3	Explain the fundamental microbial processes involved in nutrient cycling in soil and water (e.g., nitrogen fixation, carbon cycling, and phosphorus solubilization).
CO 4	Analyze the role of microorganisms in the biogeochemical cycles (nitrogen, carbon, sulfur, phosphorus) in soil and water ecosystems.

Course: Marine Microbiology

Course Outcomes	Statement
CO 1	The student will be able to understand marine environment.
CO 2	The student will be able to know the methods of marine microbiology.
CO 3	The student will be able to know role of microbes in ocean processes.
CO 4	The students will be able to know recent trends in marine microbiology.

Shobhit University Gangoh
Dean
School of Biological Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Vetinary Sciences

Course Outcomes	Statement
CO 1	Understand the anatomy, physiology, and pathology of animals and the role of the veterinarian in maintaining animal health.
CO 2	Develop skills in diagnosing and treating common and complex diseases in animals, using appropriate diagnostic and therapeutic methods.
CO 3	Gain proficiency in performing routine and emergency surgeries, managing post-operative care, and applying advanced surgical techniques.

Course: Biodiversity

Course Outcomes	Statement
CO 1	Demonstrate an understanding of the different levels and types of biodiversity (species, genetic, and ecosystem diversity).
CO 2	Analyze biodiversity using various methods and indices, including species richness, evenness, and diversity indices.
CO 3	Critically assess the impact of human activities on biodiversity, including habitat destruction, climate change, and overexploitation.

Shobhit University Gangoh
Dean
School of Biological Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Bioinformatics

Course Outcomes	Statement
CO 1	Students will be able to understand basics of internet and computers along with information on various databases.
CO 2	Students will be able to understand application of bioinformatics in biotechnology.
CO 3	Students will be able to understand sequence alignment and various algorithms for it.
CO 4	Students will be able to understand and interpret sequence annotation and its retrieval.
CO 5	The information about various biologically important databases will be made available to students.

Course: Developmental biology and embryology

Course Outcomes	Statement
CO 1	Describe the key events in the development of organisms, from fertilization to adulthood, including cellular division, differentiation, and morphogenesis.
CO 2	Understand the molecular and genetic basis of development, including gene expression regulation, transcription factors, signaling pathways, and the role of master regulators in cell differentiation.
CO 3	Explain the processes of fertilization, cleavage, gastrulation, and neurulation, and their importance in shaping the embryonic body plan.

Shobhit University Gangoh
Dean
School of Biological Engg. & Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: Population biology

Course Outcomes	Statement
CO 1	Describe and analyze different population growth models (exponential and logistic) and their applicability in real-world scenarios.
CO 2	Apply Hardy-Weinberg equilibrium and understand the role of genetic drift, migration, mutation, and natural selection in shaping population genetics.
CO 3	Examine the interactions between species (competition, predation, and mutualism) and understand their impact on population size and distribution.

Course: Project/Dissertation

Course Outcomes	Statement
CO 1	Forty five days of Sixth Semester of the B.Sc. Curriculum is devoted to major project/field work.
CO 2	Students, with the help of their mentor and faculty colleagues will identify a lab in India & abroad for the research work.
CO 3	The student should stay for a minimum prescribed Semester period at the place of work.
CO 4	Students not staying for the prescribed period will be marked absent as per the University Rules.
CO 5	At the end of their project the students shall submit the dissertation as per the Guidelines prescribed below.

Shobhit University Gangoh
Dean
School of Biological Sciences

Shobhit University
EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U.: www.sug.ac.in

Course: General Proficiency

Course Outcomes	Statement
CO 1	Effective communication: The ability to exchange ideas and information in a way that builds trust and respect.
CO 2	Critical and analytical thinking: The ability to explore issues and ideas before forming a conclusion.
CO 3	Integrative thinking: The ability to synthesize knowledge across different domains and perspectives.
CO 4	preparing students to be engaged citizens: Preparing students to participate in political culture and thrive in a rapidly evolving world.

Shobhit University Gangoh
Dean
School of Biological Engg. & Sciences