

JSS Academy of Higher Education & Research

JSS Colleges of Pharmacy

Mysuru and Ooty



Pharmacy Practice Experience Program Manual



JSS ACADEMY OF HIGHER EDUCATION AND RESEARCH
JSS COLLEGES OF PHARMACY
MYSURU AND OOTY

PHARMACY PRACTICE EXPERIENCE PROGRAM
MANUAL

Contact Information

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I. Overview of Pharmacy Practice Experience Program

The objective of pharmacy practice experience program at JSS Academy of Higher Education & Research (JSS AHER) is to create and facilitate the actual professional life experience in practice settings so that students obtain an opportunity to integrate and apply their knowledge based on the learning and experience of various phases of curriculum. Pharmacy practice experience program helps them to develop critical thinking and problem solving skills and apply these skills in the actual practice of pharmacy, thereby playing a key role in patient care. It also cultivates the qualities of professionalism in students and makes them practice more independently in variety of clinical settings.

Pharmacy practice experience program at JSS Colleges of Pharmacy, Mysuru and Ooty facilitates effective learning through well-structured and mentored educational activities. The experiential component of curriculum is designed in such a manner that it provides real life exposure to patient care services and enables active participation of students in different healthcare settings. Students are exposed to prescription processing, compounding, documenting services, obtaining drug histories, drug therapy monitoring, patient counseling, evaluating drug usage, drug distribution systems, and other relevant pharmacy practice activities. Students are exposed to the community pharmacy practice in second year, clinical pharmacy practice and hospital pharmacy activities during fourth year of PharmD program. Curriculum of second, third and fourth year of PharmD program provide students with opportunities to learn clinical uses of drugs through the real life situation and case based learning. In addition, students are introduced to clinical practice experience (Clerkship) during the fifth year of curriculum (20hrs/week or 600hrs/year).

Such exposure to the students at various level of their course work from second year through fifth year PharmD is expected to provide them with enough basic knowledge and training of community and hospital pharmacy and clinical practice and prepares them for advanced practice experience in the sixth year PharmD. Students also become familiar with the functioning of healthcare set-up and learn to work as partners with patients, physicians, nurses, and other healthcare professionals.

The internship training in the final year (VI PharmD) of the course provides working experience in a variety of clinical settings and an opportunity to deliver pharmaceutical care services independently. During internship, the students are required to undergo rotation for

six months (three rotations of two months each) in general medicine department and two months each in any other three-specialty departments. This provides an opportunity for students to select the specialty rotations of his/her career interest through elective mode.

In the beginning of the internship, a schedule of ward round rotations and preceptor in charge for each rotation is provided to interns. During the postings student attends the clinical ward rounds in their respective wards/units posted as a part of multidisciplinary healthcare team. They review the medication orders (treatment chart review), check the medication administration records, identify any drug related problems and discuss with the other healthcare professionals as appropriate and provide other clinical pharmacy services as required. Interns also identify a minimum of two cases per week for discussion with the preceptor about planning of pharmacotherapy and make a presentation of such cases to the fellow interns for discussion. Each student has to present a minimum of six formal case presentations, one journal club, one disease /drug profile and a video reflection that are evaluated regularly using structured format. The interns document their activities in google form and in Experiential Learning Management System (ELMS) i.e. 'PharmAcademic' for evaluation by the preceptors.

All interns are expected to maintain the records of their activities in a logbook during their internship. Interns are required to document their daily pharmacy practice activities in the logbook and meet the preceptor at regular intervals to review their experiential learning. The preceptor monitors continuously each intern's performance, management skills, identify their strengths & weaknesses, and provide them necessary guidance/constructive feedback to ensure the development in core competency areas. The evaluation also includes intern's attitude towards patient-care responsibilities, quality of the services provided, practice skills, professional behavior, attitudes and values, confidence, and personal responsibility needed for independent and collaborative practice. At the end of internship, the intern is expected to meet the learning outcome of individual posting in addition to the general learning outcomes.

The academic preceptors assess the performance of the interns at entry level and end of rotation for each of their clinical rotation. The interns perform self-assessment using the same parameters and scale at the beginning and at the end of each rotation. Further, as per the requirements of Pharmacy Council of India, students are graded for each of the rotations on the scale of 0-5 on pre-specified criteria.

Overall, the pharmacy practice experience program produces a, competent, caring, and responsible professional who can deliver pharmaceutical care services and communicate effectively with diverse patient population, healthcare professionals and fellow colleagues.

II. Preceptor

A preceptor is defined as “a teacher or an instructor or an expert or specialist, such as a pharmacist/physician/other healthcare professional, who gives practical experience and training to a student pharmacist

a) Roles and Responsibilities of Preceptor

- Monitor the attendance of interns/students allotted
- Supervise the student and review the expectations for the students with respect to attitude, appearance and patient care responsibilities
- Monitor students ward activities preferably on daily basis or at least on alternate days
- Review and discuss all the cases in brief at least ONCE a week.
- Allow adequate time for communication and be willing to discuss all aspects of professional practice.
- Identify suitable cases for discussion with students. Attempt should be made to discuss all the cases as mentioned in **Interns learning outcomes for particular rotations.**
- Make sure that minimum of **2 cases/ week** should be discussed and student should document the same in their **Internship log book** and get it signed by preceptor on the same day and by Head of the department at the end of the rotation.
- Provide necessary support systems to allow an atmosphere of optimal learning for student.
- Encourage the student for journal club by aiding in identification of suitable article for presentation & discussion. Minimum of **one hour/ month** should be spent on discussion with student and same should be documented by the student.
- Minimum of **2 hours/week/project** should be dedicated for discussion on PharmD projects and same should be documented by the student in a project log book maintained, signed by preceptor on the same day and endorsed by head of the department once a month.
- Offer constructive criticism in a professional manner as well as praise for achievements.

- Evaluation of student performance in ward activities should be done at entry and at exit level of each rotation. Entry level evaluation for all the activities should be done within two weeks of entry of student to the particular rotation. Similarly exit level evaluation must be done for all the ward activities in the last week of rotation and endorsed by head of the department.
- Preceptor should not enter into any personal or professional arrangement with a student that would jeopardize or interfere with learning objectives or effective teaching. Not to seek any personal favors from the students.
- Preceptor should uphold the dignity and honor of the profession and accept its moral and ethical principles.

b) Preceptor Selection Criteria

- The preceptor (pharmacist) should hold current licensure of State Pharmacy Council and meet the requirements of the Pharmacy Council of India.
- The preceptor (pharmacist) should have a qualification as per the PharmD regulations of Pharmacy Council of India.
- In circumstances where preceptor is a clinician (medical doctor), the preceptor must have a license with appropriate licensing authority.
- The preceptor should have enough of experience in the practice site to be familiar with aspects, routines, policies, procedures and personnel.
- The preceptor should have the professional training and experience in their particular practice specialty to develop an innovative practice site that fosters student education.
- The preceptor should demonstrate a good relationship with other healthcare providers of the practice site and exhibit a caring attitude towards the pharmacy students and patients.
- Preceptor should be willing to accept responsibility for providing instruction, supervision and evaluation required for students to complete assignments and achieve competency in the respective study site.

C) List of Academic Clinical Pharmacists as Preceptors

JSS College of Pharmacy, Mysuru

Sl. No.	Name	Qualification	Licensure details
1.	Dr. Ramesh Madhan	M. Pharm., Ph.D., Dip ClinPharm, FICP (Australia)	Karnataka State Pharmacy Council (Reg. No: 42125)
2.	Ms. Savitha R. Sanathan	M.Pharm	Karnataka State Pharmacy Council (Reg. No:21528)
3.	Ms. Shilpa Palaksha	M.Pharm	Karnataka State Pharmacy Council (Reg. No:52838)
4.	Mr. Jaidev B.R. Kumar	M.Pharm.	Karnataka State Pharmacy Council (Reg. No: 20069)
5.	Dr. Umesh Marappa	PharmD	Karnataka State Pharmacy Council (Reg. No: 36042)
6.	Dr. Juny Sebastian	M.Pharm, Ph.D	Kerala State Pharmacy Council (Reg. No: 36036)
7.	Dr. Krishna Undela	M.Pharm, Ph.D	Andhra Pradesh State Pharmacy Council (Reg. No: A2046589)
8.	Mr. Balaji S.	M.Pharm	Karnataka State Pharmacy Council (Reg No: 56344)
9.	Dr. Sri Harsha Chalasani	M.Pharm, Ph.D	Karnataka State Pharmacy Council (Reg. No:48186)
10.	Dr. Srikanth M.S.	M.Pharm, Ph.D	Karnataka State Pharmacy Council (Reg. No: 42834)
11.	Dr. Rakshith U.R.	PharmD	Karnataka State Pharmacy Council (Reg. No:51806)
12.	Dr. Siddartha N. Dhurappanavar	PharmD	Karnataka State Pharmacy Council (Reg. No: 57023)
13.	Dr. Ann V. Kuruvilla	PharmD	Kerala State Pharmacy Council (Reg. No: 56465)

- Preceptor should be able to spend adequate time with the student to provide learning opportunities in all areas of the practice site and also in-patient centered care in their facility.
- Preceptors should regularly interact with and teach students, provide constructive feedback, and assess the performance of the students at entry & end of the rotation.
- Preceptor should not discriminate students in any way based on race, cast, color, religion, national origin, sex, age and disability.

JSS College of Pharmacy, Ooty

Sl. No.	Name	Qualification	Licensure details
1.	Dr. Ponnusankar S.	M.Pharm., Ph.D.	Tamil Nadu State Pharmacy Council (Reg. No: 5178/A1)
2.	Dr. Arun K. P.	M. Pharm, Ph.D.	Tamil Nadu State Pharmacy Council (Reg. No: 2331/A1)
3.	Dr. Deepalakshmi M.	M.Pharm, Ph.D.	Tamil Nadu State Pharmacy Council (Reg. No: 2992/A1)
4.	Mrs. Roopa B. Satyanarayan	M.Pharm.	Karnataka State Pharmacy Council (Reg. No: 45387)
5.	Dr. Sadagoban G. K.	PharmD	Tamil Nadu State Pharmacy Council (Reg. No: 16197/A1)
6.	Dr. Swathi Swaroopa B.	PharmD	Karnataka State Pharmacy Council (Reg. No: 46432)
7.	Dr. Keerthana C.	PharmD	Tamil Nadu State Pharmacy Council (Reg. No: 35)
8.	Dr. Aneena Suresh	PharmD	Kerala State Pharmacy council (Reg. No: 52664)
9.	Dr. Khayati Moudgil	PharmD	Haryana State Pharmacy Council (Reg. No: 27107)
10.	Mr. H. N. Vishwas	M.Pharm	Karnataka State Pharmacy Council (Reg. No: 39765)
11.	Dr. Santhosh Reddy	PharmD	Tamilnadu State Pharmacy Council (Reg. No: 355)

D) List of Clinician Preceptors (Medical Doctors)

JSS College of Pharmacy, Mysuru

Sl. No.	Name	Designation & Department	Nature of work
1.	Dr. D. Narayanappa	Professor Dept. of Paediatrics JSS Hospital, Mysuru	Preceptor/Co-guide
2.	Dr. M. D. Ravi	Professor Dept. of Paediatrics JSS Hospital, Mysuru	Preceptor/Co-guide
3.	Dr. K. B. Mahendrapa	Professor Dept. of Paediatrics JSS Hospital, Mysuru	Preceptor
4.	Dr. Jagadish Kumar. K	Professor & Head Dept. of Paediatrics JSS Hospital, Mysuru	Preceptor
5.	Dr. S. N. Prashanth	Professor Dept. of Paediatrics JSS Hospital, Mysuru	Preceptor
6.	Dr. V. G. Manjunath	Associate Professor Dept. of Paediatrics JSS Hospital, Mysuru	Preceptor
7.	Dr. Srinivasa Murthy D.	Professor Dept. of Paediatrics JSS Hospital, Mysuru	Preceptor/Co-guide
8.	Dr. B. J. Subhash Chandra	Professor & Head Dept. of Medicine JSS Hospital, Mysuru	Preceptor/Co-guide
9.	Dr. Y. S. Ravikumar	Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor/ Co-guide
10.	Dr. Pratibha Pereira	Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor/Co-guide
11.	Dr. K. M. Srinath	Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor/Co-guide
12.	Dr. H. S. Kiran	Associate Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor

13.	Dr. M. Bhanukumar	Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor/Co-guide
14.	Dr. Thippeswamy	Associate Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor/ Co-guide
15.	Dr. Ashok P.	Assistant Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor
16.	Dr. Adarsh L. S.	Assistant Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor
17.	Dr. Manjappa M.	Associate Professor Dept. of Cardiology JSS Hospital, Mysuru	Preceptor
18.	Dr. Sunil Kumar S.	Associate Professor Dept. of Cardiology JSS Hospital, Mysuru	Preceptor/ Co-guide
19.	Dr. Kishor M.	Assistant Professor Dept. of Psychiatry JSS Hospital, Mysuru	Preceptor/Co-guide
20.	Dr. B. J. Sharath Chandra	Professor Dept. of Surgery JSS Hospital, Mysuru	Preceptor/ Co-guide
21.	Dr. M. S. Anil Kumar	Associate Professor Dept. of Surgery JSS Hospital, Mysuru	Preceptor
22.	Dr. S. Harsha	Professor & Head Dept. of Neurology JSS Hospital, Mysuru	Preceptor
23.	Dr. P. A. Mahesh	Professor & Head Dept. of Pulmonology JSS Hospital, Mysuru	Preceptor/Co-guide
24.	Dr. B.S. Jayaraj	Professor Dept. of Pulmonology JSS Hospital, Mysuru	Preceptor/ Co-guide
25.	Dr. Chaya S K	Assistant Professor Dept. of Pulmonology JSS Hospital, Mysuru	Preceptor
26.	Dr. Manjunath S. Shetty	Professor & Head Dept. of Nephrology JSS Hospital, Mysuru	Preceptor/ Co-guide
27.	Dr. Chetan C. S.	Assistant Professor Dept. of Nephrology JSS Hospital, Mysuru	Preceptor
28.	Dr. Kiran K. K.	Assistant Professor Dept. of Nephrology JSS Hospital, Mysuru	Preceptor

29.	Dr. H. P. Nandeesh	Professor & Head Dept. of Gastroenterology JSS Hospital, Mysuru	Preceptor/ Co-guide
30.	Dr. Vijay Kumar	Assistant Professor Dept. of Gastroenterology JSS Hospital, Mysuru	Preceptor
31.	Dr. Aradhya H.V.	Assistant Professor Dept. of Gastroenterology JSS Hospital, Mysuru	Preceptor
32.	Dr. S. Veeranna	Professor Dept. of Dermatology JSS Hospital, Mysuru	Preceptor
33.	Dr. G. R. Kanthraj	Professor Dept. of Dermatology JSS Hospital, Mysuru	Preceptor
34.	Dr. Ashwini P. K.	Assistant Professor Dept. of Dermatology JSS Hospital, Mysuru	Preceptor
35.	Dr. Mruthyunjaya	Professor & Head Dept. of Orthopedics JSS Hospital, Mysuru	Preceptor
36.	Dr.Purushothama Sastry	Professor Dept. of Orthopedics JSS Hospital, Mysuru	Preceptor
37.	Dr. Gurudath C. L.	Professor & Head Dept. of Anaesthesia JSS Hospital, Mysuru	Preceptor
38.	Dr. Nalini Kotekar	Professor Dept. of Anaesthesia JSS Hospital, Mysuru	Preceptor
39.	Dr. Vijay Shankar	Asst. Professor & Head Dept. of Urology JSS Hospital, Mysuru	Preceptor
40.	Dr. Madhavi Y. S.	Senior Radiation Oncologist Bharat Hospital and Institute of Oncology	Preceptor/ Co-guide
41.	Dr. Srinivas K. J.	Medical Oncologist Bharat Hospital and Institute of Oncology, Mysuru	Preceptor/Co-guide
42.	Dr. M. S. Vishveshwara	Chief Radiation Oncologist Bharat Hospital and Institute of Oncology, Mysuru	Preceptor/Co-guide
43.	Dr. V. H. T. Swamy	HIV Specialist Asha Kirana Hospital, Mysuru	Preceptor/ Co-guide

44.	Dr. Dileep Kumar	Deputy Medical Superintendent Narayana Hrudayalaya Hospital, Mysuru	Preceptor
45.	Dr H. S. Kiran	Associate Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor
46.	Dr M. Bhanukumar	Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor/Co-guide
47.	Dr Thippeswamy	Associate Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor/ Co-guide
48.	Dr Ashok P.	Assistant Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor
49.	Dr Adarsh L. S.	Assistant Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor
50.	Dr Manjappa M.	Associate Professor Dept. of Cardiology JSS Hospital, Mysuru	Preceptor
51.	Dr Sunil Kumar S.	Associate Professor Dept. of Cardiology JSS Hospital, Mysuru	Preceptor/ Co-guide
52.	Dr H. S. Kiran	Associate Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor
53.	Dr M. Bhanukumar	Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor/Co-guide
54.	Dr Thippeswamy	Associate Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor/ Co-guide
55.	Dr Ashok P.	Assistant Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor
56.	Dr Adarsh L. S.	Assistant Professor Dept. of Medicine JSS Hospital, Mysuru	Preceptor
57.	Dr Manjappa M.	Associate Professor Dept. of Cardiology JSS Hospital, Mysuru	Preceptor
58.	Dr Sunil Kumar S.	Associate Professor Dept. of Cardiology JSS Hospital, Mysuru	Preceptor/ Co-guide

JSS College of Pharmacy, Ooty

Sl. No	Name	Designation	Nature of work
1.	Dr. Hiriyan Ravikumar	Chief Civil Surgeon	Preceptor
2.	Dr. V. Balasubramaniam	Senior Civil Surgeon	Preceptor
3.	Dr. N. Loghraj	Assistant Surgeon	Preceptor
4.	Dr. Mohan prasad	Assistant Surgeon	Preceptor
5.	Dr. R. Vinodh	Assistant Surgeon	Preceptor
6.	Dr. B. Jeyaganesh Moorthy	Senior Assistant Surgeon	Preceptor
7.	Dr. Amaravathy Rajan	Chief Civil Surgeon	Preceptor
8.	Dr. N. Nalini	Assistant Surgeon	Preceptor
9.	Dr. V. Arunkumar	Assistant Surgeon	Preceptor
10.	Dr. P. Thangamani	Assistant Surgeon	Preceptor
11.	Dr. H. Sivakumar	Child Health	Preceptor
12.	Dr. Ashok Indersen	Assistant Surgeon	Preceptor
13.	Dr. F. Biravinth Solaman	Assistant Surgeon	Preceptor
14.	Dr. L. Dilip	Senior Assistant Surgeon	Preceptor
15.	Dr. S. Aranya	Assistant Surgeon	Preceptor
16.	Dr. H. Anu	Assistant Surgeon	Preceptor
17.	Dr. P. Divya	Assistant Surgeon	Preceptor
18.	Dr. R. Gurumoorthy	Assistant Surgeon	Preceptor
19.	Dr. S. Nithiya	Assistant Surgeon	Preceptor
20.	Dr. K. M. Poornajith	Assistant Surgeon	Preceptor
21.	Dr. R. Ravishankar	Senior Assistant Surgeon	Preceptor
22.	Dr. Karthik Balaji	Assistant Surgeon	Preceptor

23.	Dr. Hiriyan Ravikumar	Chief Civil Surgeon	Preceptor
24.	Dr. Priya Sundar	Assistant Surgeon	Preceptor
25.	Dr. Keerthnakumar	Assistant Surgeon	Preceptor
26.	Dr. D. Udaya	Assistant Surgeon	Preceptor
27.	Dr. S. Arunkumar	Assistant Surgeon	Preceptor
28.	Dr. R. Mytherya	Assistant Surgeon	Preceptor
29.	Dr. U. Janaranjani	Assistant Surgeon	Preceptor
30.	Dr. Savitha Ratnam	Assistant Surgeon	Preceptor
31.	Dr. G. Sahnmuga Sundar	Assistant Surgeon	Preceptor
32.	Dr. R. Nandhini	Assistant Surgeon	Preceptor
33.	Dr. S. Nithiyan	Assistant Surgeon	Preceptor
34.	Dr. I. Kittu	Assistant Surgeon	Preceptor
35.	Dr. N. Kohilarajan	Assistant Surgeon	Preceptor
36.	Dr. S. Gowtham	Assistant Surgeon	Preceptor
37.	Dr. S. Naveenraj	Assistant Surgeon	Preceptor
38.	V. Prithiviraj	Assistant Surgeon	Preceptor
39.	Dr. S. Dhanraj	Assistant Surgeon	Preceptor
40.	Dr. Dineshkumar	Senior Assistant Surgeon	Preceptor
41.	Dr. G. Karthikeyan	Assistant Surgeon	Preceptor
42.	Dr. S. Dhanraj	Assistant Surgeon	Preceptor

e) List of community pharmacy preceptors

Sl. No.	Name	Designation	Licensure details	Nature of Work
1.	Mr. Chandrashekhar H.V	Pharmacist	Karnataka State Pharmacy Council (Reg. No: 14045)	Preceptor
2.	Mr. Satish B H	Pharmacist	Karnataka State Pharmacy Council (Reg No: 34829)	Preceptor
3.	Mr. Rajesh K M	Pharmacist	Karnataka State Pharmacy Council (Reg No:11380)	Preceptor
4.	Mr. Sagar D Narang	Pharmacist	Karnataka State Pharmacy Council (Reg No: 42830)	Preceptor
5.	Mr. Kiran M S	Pharmacist	Karnataka State Pharmacy Council (Reg No: 21406)	Preceptor
6.	Mr. Syed Farooq Ahmed	Pharmacist	Karnataka State Pharmacy Council (Reg No:16984)	Preceptor
7.	Mr. Kumaraswamy	Pharmacist	Karnataka State Pharmacy Council (Reg No: 27157)	Preceptor
8.	Mr. Anil H M	Pharmacist	Karnataka State Pharmacy Council (Reg No: 29579)	Preceptor
9.	Mr. Madhusudhan G	Pharmacist	Karnataka State Pharmacy Council (Reg No: 22878)	Preceptor
10.	Mr. Javeed Ahmed Khan	Pharmacist	Karnataka State Pharmacy Council (Reg No:14227)	Preceptor
11.	Mr. V Mahesh Kumar	Pharmacist	Karnataka State Pharmacy Council (Reg No: 11954)	Preceptor
12.	Mr. S Umesh	Pharmacist	Karnataka State Pharmacy Council (reg No: 20964)	Preceptor
13.	Mr. Arun C K	Pharmacist	Karnataka State Pharmacy Council (Reg No: 20957)	Preceptor
14.	Mr. Pradeep Kumar P N	Pharmacist	Karnataka State Pharmacy Council (Reg No:29505)	Preceptor
15.	Mr. Ravindra Babu R	Pharmacist	Karnataka State Pharmacy Council (Reg No: 6138)	Preceptor

III. Practice Site Selection Criteria

- The practice site must have necessary governmental and regulatory approvals required to provide patient care.
- The practice site must have a signed Memorandum of Understanding with JSS College of Pharmacy, JSS AHER.
- The preceptor in the practice site must meet the preceptor requirements
- Should have adequate patient population that exhibits diversity in medical conditions or a specialty care for specific exposure to meet the required learning objectives for the course.
- Should have access to learning and information resources pertaining to patient care.
- Management should be supportive of professional staff involvement in the education of pharmacy students.
- Should have a practice environment that encourages and supports pharmacist/other healthcare professional and student interactions with patients.
- Should have easy access to preceptor or a qualified designee at the practice site to ensure that students receive feedback and have opportunities to ask questions.
- Should have adequate professional staff and supportive technical and clerical staff to meet the learning objectives and also to provide for optimum time for preceptor and student interaction.
- Should provide continuous medical education program for health care providers.

a) *List of Practice Sites*

National

Sl. No.	Name of the Practice Site	Place of Practice Site
1.	JSS Hospital	Mysuru, Karnataka
2.	Bharat Hospital and Institute of Oncology	Mysuru, Karnataka
3.	Asha Kirana Hospital	Mysuru, Karnataka
4.	Columbia Asia Hospital	Mysuru, Karnataka

5.	Narayana Multi Specialty Hospital	Mysuru, Karnataka
6.	Apollo BGS Hospital	Mysuru, Karnataka
7.	Suyog Hospital	Mysuru, Karnataka
8.	Government District Headquarters Hospital	Ooty, Tamil Nadu
9.	Royal Care Hospital	Coimbatore, Tamil Nadu
10.	GKNM, Hospital	Coimbatore, Tamil Nadu
11.	Gleneagles Global Hospital	Hyderabad, Telangana
12.	Gem Hospital	Coimbatore, Tamil Nadu
13.	Apollo Hospital	New Delhi
14.	Chazhikattu Hospital	Thodupuzha, Kerala
15.	Little Flower Hospital	Angamaly, Kerala
16.	Care Hospitals	Visakhapatnam, AP
17.	Believers Church Medical College Hospital	Thiruvalla, Kerala
18.	Fortis Escorts	Jaipur, Rajasthan
19.	Sunshine Hospital	Secunderabad, Telangana
20.	Aster Medcity	Kochi, Kerala

International

Sl. No.	Name of the Practice Site	Place of Practice Site	Country
1.	University of North Carolina	Chicago	USA
2.	Southern Illinois University Edwardsville	Edwardsville	USA
3.	Howard University Hospital	Washington D C	USA
4.	Hamard General Hospital	Qatar	Middle East
5.	Gleneagles Global Hospital	Napier Road, Singapore	Singapore

6.	Royal Care Khatoum	Sudan	Africa
7.	Muhimbili	Tanzania	East Africa

Community practice sites

Sl. No.	Name of the Practice Site	Place of Practice Site
1.	Shivananda Medicals, Mysuru	Mysuru, Karnataka
2.	Maruthi Medicals, Mysuru	Mysuru, Karnataka
3.	Eshwar Medicals, Mysuru	Mysuru, Karnataka
4.	Sagar Medicals, Mysuru	Mysuru, Karnataka
5.	Kausthubha Medicals, Mysuru	Mysuru, Karnataka
6.	Indian Medicals, Mysuru	Mysuru, Karnataka
7.	Kumar Medicals, Mysuru	Mysuru, Karnataka
8.	Med Pharma, Mysuru	Mysuru, Karnataka
9.	Sri Raghavendra Medicals, Mysuru	Mysuru, Karnataka
10.	Ghousia Medicals, Mysuru	Mysuru, Karnataka
11.	Thrishakthi Medicals, Mysuru	Mysuru, Karnataka
12.	Sowmya Medicals, Mysuru	Mysuru, Karnataka
13.	Namratha Medicals, Mysuru	Mysuru, Karnataka
14.	JSS Community Pharmacy, Mysuru	Mysuru, Karnataka
15.	Ravi Medicals, Mysuru	Mysuru, Karnataka

IV. Instructions to Students

The following policies have been established to assure quality rotation experiences for students.

Internship Training

It is a phase of training wherein a student is exposed to actual pharmacy practice or clinical pharmacy services and acquires skills under supervision so that he or she may become capable of functioning independently. Internship includes posting in specialty units. Student should independently provide clinical pharmacy services to the allotted wards. The training includes posting for six months in Internal Medicine Wards & two months each in any three other specialty departments as prescribed by the Pharmacy Council of India (PCI).

Outside Employment

Concurrent employment of any nature during the experiential rotations is not allowed as internship training is a full-time experiences.

Dress Code

The student pharmacist-intern MUST be in professional attire, which includes clean apron and identification badges, at all times while on-site and on-campus and off-campus pharmacy functions. Professional attire includes dress slacks, dress shirt for male interns and salwar suits or saris for female interns. Jeans, T-shirts or any other casual wear is not permitted. Formal shoes are recommended.

Personal Appearance

Fake nails or nail polish must be removed for hospital. Regular clipping of nails is recommended to keep them short. The intern's hair, personal hygiene and use of fragrances should be appropriate for the professional setting.

Communication

Keeping informed of department and program information during the experiential year is a shared responsibility between the college and the intern. Interns are responsible for published information distributed either in print, web, or electronically, including program policies and experiential workbooks. The college and the Department of Pharmacy Practice will communicate additional information throughout the year using available technology. Interns should check Notice Board and E-mail daily for up-dates. It is a requirement of the experiential program that all interns have Internet access and a current useable e-mail account on file with the department/College Office.

It is the intern's responsibility to make sure the department/College Office has the intern's current address, phone numbers and e-mail address. Any change in the address, and phone number should be reported to the Office immediately.

Schedules and Scheduling

Final rotation assignments are at the discretion of the Head of the Department of Pharmacy Practice. Interns' academic standing in both didactic and practical courses as well as the interns' professional experiences will be considered in this process. Faculty availability and site characteristics also play a significant role in the rotation assignments. In unforeseen circumstances, a change in the intern's schedule may become unavoidable. Rescheduling of these changes will be based on availability of rotation sites, intern performance to date, and type of rotation required.

Legal Responsibility

Intern should constantly be alert to and obey the laws and regulations that govern pharmacy profession and follow the code of conduct for pharmacists. Intern should seek clarification of any points that are not clear from the preceptors. Interns are not to perform medical procedures or otherwise act outside the scope of pharmacy practice.

Patient Confidentiality

Interns are responsible for maintaining site and patient confidentiality. Any breach of site or patient confidentiality is grounds for immediate dismissal from the experiential program and may also result in additional disciplinary action as deemed necessary by the institution. Discussion of patient information is limited to the medical team or preceptor. Discussions with other personnel are prohibited. Interns should familiarize themselves with and adhere to Code of Ethics of Pharmacy Council of India. Follow the guidelines governing patient confidentiality at the rotation site. Do not leave patient profiles or other documents in public areas. Patient case sheets are to remain located at the nursing station and photocopying of the charts is prohibited. Videotaping, picture taking, etc. of patients or patient's information are also prohibited.

Cell Phone Use

Interns should turn off their cell phones during ward activities and be kept in silent mode during other working hours.

Attendance

The preceptor determines the schedule for the intern's activities. In general, the intern is expected to work a normal 8 hours a day of 8:30 a.m. to 5:30 p.m., Monday through

Saturday. Irregularity and not being punctual could result in automatic removal from department and a failing grade for that rotation. No holidays/vacation permitted during the internship. For any sort of absence, internship will be extended by the same duration of absence.

Unexcused Absences

Leaving the rotation site early without preceptor permission and lack of attendance to assigned activities are considered unexcused absences. Unexcused absences will result in withdrawal from the rotation site and a failing grade for the rotation. Excessive absences, tardiness, or failure to notify the preceptor in a timely manner on a single rotation is grounds for failure.

Computer, e-mail & Internet use Policy

Students are expected to use the internet responsibly and productively. Internet access should be limited to send and receive e-mails, for research and academic work, accessing medical and pharmacy databases etc. Unacceptable use of internet by students includes, but is not limited to:

Accessing sites that contain obscene, unlawful or otherwise illegal material, social networking/auction sites, online purchase sites, downloading movies etc. Downloading, copying or pirating software and electronic files that are copyrighted, Hacking unauthorized websites. Sending or posting chain letters or advertisements not related to academics

Case presentations/Journal Clubs

A minimum of 10 cases must be presented by the intern during the internship. Interns should attend case presentations and journal clubs regularly.

Research Activities

Interested student interns may prepare a research proposal (considering an important, current and clinically relevant question, feasibility in the time frame and minimal expenses) and conduct an appropriate clinically-oriented research project under the guidance of a suitable preceptor. The proposal may be an extension of the project work carried out in the fifth year. The results of the same may be made into a verbal or poster presentation suitable for a national/international pharmacy conference or submitted in a form suitable for publication (manuscript).

Evaluations

Preceptor evaluation of student is considered an internship requirement. The preceptor

assesses and monitors intern's performance identifies strengths & weaknesses & provides necessary guidance/constructive feedbacks to ensure student development in core competency areas. Intern is evaluated on a timed basis during each rotation by the preceptor; one week after rotation begins, end-of-rotation (last week of the rotation) and as required. The preceptor may also interact with respective unit heads and/or healthcare team for feedback about the intern. Interns are graded based on the knowledge, skills in performing a task and how independently a task is performed.

V. Learning Outcomes for Required Rotations

The prime objective of rotations is to provide experiential learning to the interns giving them an opportunity to refine their patient care and pharmacy practice skills in a variety of clinical situations. Internship consists of progressive rotations that prepare an intern to independently and competently provide primary pharmaceutical care. After completion of rotation the intern is expected to:

1. Demonstrate knowledge of pathophysiology and pharmacotherapy of the most common disease states seen in patients in the practice setting (as listed in the respective departments).
2. Knowledge of rational use of drugs and interpretation of laboratory investigations to aid in drug therapy decision- making
3. Demonstrate ability to retrieve and integrate patient data along with prioritizing patient problems and design suitable pharmacotherapeutic regimens for the patients.
4. Demonstrate skills needed to identify, analyze and resolve drug related problems. This includes the ability to assess current therapy and compliance along with detection and management of drug related problems.
5. Monitor patient's drug therapy using patient-specific, drug-specific and disease specific parameters at appropriate intervals and frequencies.
6. Provide concise, relevant and timely responses to requests for drug information from patients/ care, and health care professionals using appropriate literature/reference searches and reviews.
7. Demonstrate the skills needed for patient counseling according to priority of cases
8. Demonstrate acceptable communication techniques with patients, healthcare professionals and other personnel in the hospital setting.
9. Document pharmaceutical care activities appropriately.

10. Display appropriate professional attitudes, habits, values and behavior.

Listed below are the objectives that are specific to respective departments/specialties during internship is required to demonstrate knowledge and skills mentioned under individual department/ specialty in addition to the general learning outcomes mentioned above. Interns are required to enhance the learning process by regular discussions with preceptor during respective rotations. A minimum of TWO patient cases per week must be discussed with the preceptor and record in PharmAcademic (refer PharmAcademic student manual).

1. General Medicine

- a) Demonstrate knowledge of pathophysiology and pharmacotherapy of the most common disease states seen in patients in a general medicine practice setting. This includes but is not limited to:
Hypertension, Diabetes Mellitus, Thyroid disorders, Heart failure, Malaria, AIDS, Ischaemic Heart Diseases, Anemia, Rheumatoid arthritis, Malaria, AIDS, Meningitis and other infectious diseases and Poisoning
- b) Knowledge of rational use of drugs and interpretation of laboratory investigations to aid in drug therapy decision making. This includes but not limited to hematological tests, liver function tests and microbiological culture sensitivity tests.
- c) Continuously build the information database needed to design a pharmacotherapeutic regimen for general internal medicine patients. This includes the ability to retrieve and integrate patient data along with prioritizing patient problems.
- d) Monitor the safety of drugs in all patients with emphasis to special population like pregnancy, lactating women and geriatric patients.
- e) Demonstrates the skills needed for patient counseling with special emphasis to patients with chronic diseases, on polypharmacy and with multiple co-morbidities, patients receiving drug(s) with narrow therapeutic index.

2. Surgery

- a) Demonstrate knowledge of pathophysiology and pharmacotherapy of the most common disease states seen in patients in Surgery. This includes but is not limited to:

Deep vein thrombosis, Cancer chemotherapy, Cellulitis, Cholelithiasis, Diabetic foot ulcers, Pancreatitis

- b) Prepare regimens for various types of carcinoma with adequate knowledge regarding the duration, administration technique and cost of the regimens.
- c) Knowledge of rational use of antibiotics, laboratory tests to direct antimicrobial therapy and selection of antimicrobial drug regimen with respect to surgical prophylaxis and treatment of various surgical infections.

3. *Pediatrics*

- a) Demonstrate knowledge of pathophysiology and pharmacotherapy of the most common disease states seen in pediatric units. This includes but is not limited to :
Bronchopneumonia, Lower Respiratory Tract Infections (LRTI), Upper Respiratory Tract Infections (URTI), Nephrotic Syndrome, Gastroenteritis, Rheumatic Fever, Seizure disorder.
- b) Gain an understanding of the role of the clinical pharmacist in a pediatric setting. Specific activities include but are not limited to,
 - Identifying patients who are at greater risk of developing medication related problems
 - Building the paediatric patient specific database via chart review and ward rounds
 - Provision of updated information on routine childhood immunizations and management of adverse events following immunization(AEFI)
 - Managing chronic illness in children and methods for improving adherence
- c) Gain an understanding of the provision of complete pharmaceutical care services to the NICU patient population. Specific activities include but are not limited to,
 - Management of neonatal sepsis, meningitis and jaundice (hyperbilirubinemia); empiric antibiotic selection
 - Designing and communicating information on early initiation of nutritional support
 - Use of drugs in the newborn

4. Orthopedics

- a) Demonstrate knowledge of pathophysiology and pharmacotherapy of the most common disease states seen in patients in orthopedic practice setting. This includes but is not limited to: *Arthritis, Septic Arthritis, Spondylitis, Osteoporosis, Disc prolapse*
- b) Knowledge of appropriate use of anti-inflammatory-analgesics, muscle relaxants

5. Psychiatry

- a) Demonstrate knowledge of pathophysiology and pharmacotherapy of the most common psychiatry disorders in patients in a Psychiatry wards. This includes but is not limited to disease *like schizophrenia, depression, anxiety, sleep disorders and social drug abuse.*
- b) Demonstrate knowledge of treatment strategies for but not limited to the above mentioned disorders and follow up plan for patients who are put on drugs that have potential to cause ADRs, drug-drug interactions and drug-food interactions.

6. Neurology

- a) Demonstrate knowledge of pathophysiology and pharmacotherapy of the most common disease states seen in patients in a Neurology practice setting. This includes but is not limited to: *Stroke, Transient ischemic attack, Migraine, Neuralgias, Parkinson's, and Seizure Disorder*
- b) Assist the neurophysician in rational selection of antiepileptic agent (s) for the management of different types of seizures.

7. Nephrology/ Hemodialysis

- a) Demonstrate knowledge of pathophysiology and pharmacotherapy of the most common disease states seen in patients in nephrology practice setting. This includes but is not limited to the following: *Acute and chronic renal failure, acid base disorders (metabolic and respiratory acidosis/alkalosis), urinary tract infections- cystitis and pyelonephritis, renal artery stenosis, hypertension, polycystic kidney disease, glomerulonephritis and nephrotic syndrome.*
- b) Demonstrate skills in performing dosage adjustments, knowledge of maximum daily dose, contraindications and typical length of therapy of major drugs used in

nephrology practice. These include *corticosteroids, antihypertensives, antibiotics and immunosuppressants among others.*

- c) Demonstrate knowledge about various techniques of dialysis (haemo, peritoneal and continuous dialysis) and management of complications of dialysis procedure (hypotension, cramps, air embolism, peritonitis, hernias, dialysate leaks etc).
- d) Demonstrate an understanding of the psychosocial implications of end stage renal disease (ESRD), provide longitudinal follow-up of patients on maintenance haemodialysis
- e) Demonstrate skills in the area of nutrition and management of complications of CKD/ESRD (control of secondary hyperparathyroidism, prevention of anemia and osteodystrophy), knowledge of dialyzable and non-dialyzable drugs.

8. Pulmonology

- a) Demonstrate knowledge of pathophysiology and pharmacotherapy of the most common respiratory diseases seen in patients in a Pulmonology wards. This includes but is not limited to disease like *asthma, chronic obstructive lung disease (COPD), tuberculosis and pneumonia.*
- b) Demonstrate knowledge of and ability to interpret PFT's
- c) Demonstrate knowledge of treatment strategies and follow up plan for emergency conditions like acute exacerbation of asthma, COPD and pneumonia in RICU settings.
- d) Design individualized drug regimen for tuberculosis patients, to suggest appropriate prophylactic and definite antibiotic therapy for respiratory tract infections.
- e) Educate the patients about life style modifications required, to manage each respiratory disorder in ambulatory settings and to prevent transmission of communicable diseases to the community.

9. Gastroenterology

- a) Demonstrate knowledge of pathophysiology and pharmacotherapy of the most common disease states seen in patients in Gastroenterology department. This includes but is not limited to disorders of the following: *Hepatitis, Peptic Ulcer, Inflammatory Bowel Disease, Gastro Esophageal reflux disease, Cirrhosis, Alcoholic liver disease, Cirrhosis and Pancreatitis.*
- b) Demonstrate knowledge of treatment strategies and follow up plan for emergency

conditions like *acute pancreatitis, varices, hepatic encephalopathy, gastric hemorrhage.*

- c) Understand the differential diagnosis of GI bleeding based on Endoscopy and describe the therapeutic maneuvers necessary to identify the cause and control gastrointestinal hemorrhage.

10. Dermatology

- a) Demonstrate knowledge of pathophysiology and pharmacotherapy of the most common disease states seen in patients in Dermatology. This includes but is not limited to disorders of the following: *Psoriasis, Steven Johnson's Syndrome, Systemic Lupus Erythematosus, urticaria, eczema, dermatitis, Herpes infections, acne, Syphilis and gonorrhoea.*
- b) Able to analyze the Adverse Drug Reaction with respect to various suspected drugs for the referred patient case to clinical pharmacist and identify the offending drug by referring different data bases and literatures.
- c) Demonstrate the knowledge of various non pharmacological treatment for variety of skin disease like phototherapy, UV therapy etc.
- d) Demonstrate the knowledge of topical and systemic antibiotics (including cause and availability) for different skin infections
- e) Able to design follow up plan for life threatening skin disease like psoriasis, Steven Johnson syndrome, toxic epidermal necrolysis etc.
- f) Should demonstrate knowledge of various skin infections present in immunocompromised patients

11. Obstetrics and Gynaecology

- a) Demonstrate knowledge of pathophysiology and pharmacotherapy of the most common disease states seen in OBG wards. This includes but not limited to : *Fibroid uterus, uv prolapse, ovarian cyst, ectopic pregnancy.*
- b) Monitor the safety of drugs in pregnant and lactating women.
- c) Assist the gynaecologist in rational selection of drugs for management of various ailments during pregnancy.

12. Anaesthesia

- a) Demonstrate knowledge of basic pharmacology and pharmacokinetics of common premedication agents including dosage schedules and relative and absolute contraindications for their use
- b) Demonstrate knowledge of the objectives of effective pre-anesthesia medication and suggest medications that can relieve anxiety, cause sedation and reduce gastric acidity and volume
- c) Demonstrate knowledge of procedures of induction of regional, local and general anesthesia and appreciate the advantages and disadvantages of various local and general anaesthetic medications
- d) Demonstrate knowledge of assessing and managing post-operative pain including dose equivalents of opioids and conversion of parenteral to oral dose; and monitor the patient for post-operative recovery

13. Oncology

- a) Demonstrate knowledge of pathophysiology of cancer and general principles of cancer chemotherapy, surgery and radiation therapy.
- b) Demonstrate knowledge of pathophysiology and pharmacotherapy of the most common types of cancers. This includes but is not limited to breast cancer, lung cancer, colorectal cancer, cervical cancer, prostate cancer and head & neck cancers.
- c) Demonstrate the knowledge and ability to prepare and provide cancer chemotherapy protocols for individual patient which includes dose of each drug required for individual patient, pre regimen medications, administration guidelines and monitoring parameters.
- d) Demonstrate knowledge and ability of identifying adverse drug reactions to anti-cancer agents and providing appropriate management for the same.
- e) Demonstrate knowledge and ability to educate clinically challenged cancer patients and their care taker for appropriate life style modifications and adherence to their suggested clinical care.
- f) Demonstrate knowledge of basic concept and practice scenario of palliative care and pain management.
- g) Demonstrate basic knowledge of different modalities of treatment for cancer other than chemotherapy, like surgery and radiations

- h) Demonstrate ability to identify different types of drug related problems and medication errors in ongoing cancer chemotherapy.
- i) Demonstrate knowledge of management of commonly occurring co-morbid conditions during standard care of cancer.
- j) Demonstrate knowledge and ability to provide drug updates and/or monograph of newly introduced anti-cancer drug(s) in the market to various health care professionals in the form of seminar or group discussion as requested.
- k) Demonstrate knowledge and ability to alert the clinicians and to educate the nursing staff wherever necessary regarding follow up of the patient.

14. Urology

- a) Demonstrate knowledge of pathophysiology and pharmacotherapy of common disease states seen in patients in Urology practice setting. This includes but not limited to the following: Urinary Tract infections, cystitis, urethral strictures, benign prostatic hyperplasia, bladder outlet obstruction, renal calculi, etc
- b) Demonstrate basic knowledge and understanding and interpret common genitourinary diagnostic tests performed in Urology including genitourinary imaging studies, urologic laboratory tests, and cystoscopy.
- c) Demonstrating and understanding of non-pharmacological management of selected diseases.
- d) Demonstrate knowledge of management of common disease states seen in patients in Urology Outpatient department like urethral strictures, Urinary retention, urinary calculi, erectile dysfunction, benign prostatic hyperplasia, dysuria, etc
- e) To be able to review treatment charts and identify and act upon common drug related problems, medication errors and inappropriate drug use situations and prepare strategies to improve the quality use of medications in these patients.
- f) To be able to provide drug information for immediate patient-care and when requested

15. Infectious diseases

- a) Demonstrate knowledge of pathophysiology and pharmacotherapy of the most common disease states seen in patients in a general medicine practice setting. This includes but is not limited to: *Dengue fever, Leptospirosis, Tuberculosis, Typhoid*

fever, Herpes infections, Pneumonia, upper and lower respiratory infections, AIDS, Malaria, hepatitis, peptic ulcer, gastroenteritis, urinary tract infection, meningitis, septicaemia.

- b) Knowledge of common microbiological and other laboratory tests used in the diagnosis of infectious diseases.
- c) Knowledge of rational use of antibiotics and interpretation of laboratory investigations to aid in drug therapy decision-making. This includes but not limited to haematological tests, liver function tests and microbiological culture sensitivity tests.
- d) Continuously build the information database needed to design a pharmacotherapeutic regimen for infectious disease patients. This includes the ability to retrieve and integrate presenting symptoms with patient laboratory data along with prioritizing patient problems.
- e) Monitor the safety of antibiotics in all patients with emphasis to special population like pregnancy, lactating women and geriatric patients.
- f) Demonstrates the skills needed for patient counseling with respect to adherence to regimens and special emphasis to patients with communicable diseases.

16. Hospital Pharmacy

- a) Understand the policies and procedures of Hospital Pharmacy and Pharmacy & Therapeutic Committee.
- b) Demonstrate the ability to handle drug distribution systems existing in the hospital pharmacy
- c) Demonstrate the ability to maintain the inventory and purchasing system in the Hospital Pharmacy.
- d) Demonstrate the knowledge of storage requirements of medicines in Hospital Pharmacy.
- e) Demonstrate the ability to operate the billing system and verify the bills against the dispensed medicines
- f) Demonstrate the ability to review and analyse the prescription to identify and resolve the prescription errors, if any (E.g., illegible prescription, unauthorized prescription, incomplete prescription etc.)
- g) Demonstrate the ability to identify and resolve the dispensing errors.
- h) Demonstrate the skills required for counseling the patients on common disease

conditions, medication use while recognizing and reporting adverse reactions to medications.

- i) Demonstrate the ability to design and develop a Hospital Formulary.

17. Community Pharmacy

- a) Understand the drug laws that govern community pharmacy practice.
- b) Demonstrate the skills in assessing the accuracy of the prescriptions received.
- c) Able to fill the prescriptions accurately.
- d) Able to prepare dispensing labels for the prescription medicines.
- e) Demonstrate the ability to provide medication counseling.
- f) Able to carry out health screening services.
- g) Demonstrate the ability to maintain the inventory control and medicines ordering process.
- h) Demonstrate the knowledge about medicines storage technique in the community pharmacy.

Instructions to use Log Book

All students are required to maintain a log book during their clerkship and internship. Students are required to document their daily clinical pharmacy activities in the log book and meet the preceptor at regular intervals to enhance the experiential learning.

Instructions to Make Entries:

Weekly Activity Report:

Date: Students should enter the date of the first and the last day of the week

Case Discussion: Students should enter the total number of cases discussed with their preceptor.

Treatment Chart Review:

Students are expected to follow all the cases in the unit in which they are posted. It is mandatory to enter a minimum of two cases per week in the pharmacademic for a rotation in discussion with the preceptor, preferably in which clinical pharmacy activities (ex: drug related problems, adverse drug reactions, patient counseling, drug information, and referral) have been documented (as per PharmAcademic student manual).

Clinical Pharmacy Activities

Students are expected to document the ward round participation and treatment chart review on daily basis. They have to record the number of following activities done per day in their respective practice sites along with the reference code and the description of the activity.

1. Case discussion
2. Drug Information
3. Poison Information
4. Adverse Drug Reaction
5. Medication Incidents
6. Adverse Event Following Immunization
7. Pharmacist Intervention
8. Patient Counselling
9. Patient Referral
10. Dose Division
11. Antibiotic Audit

Also, students are expected to document the number of patients in the ward, number of new admissions, total number of cases and number of cases reviewed on daily basis. The students need to get signatures from their preceptor on weekly basis after discussion with them.

Clerkship/ Internship Summary Sheet

To be filled by the student at the end of their respective rotation. For each activity, interns are required to mention the total number of services provided as described below.

Activity	Total Number
Patient Profile Form (Written and Documented)	
Ward Round Participation	
Treatment Chart Review	
Case Discussion	
Drug Information	
Poison Information	
Adverse drug reactions	
Medication Incidents	
Adverse Events Following Immunization	

Patient Interventions	
Patient counseling	
Patient Referrals	
Dose Division	
Antibiotic Audit	
Case presentation	
Seminar/Assignments	

VI. Quality Assurance

Performance Evaluation for Clerkship Students

To be assessed at the end of rotation by the preceptor.

Assessment Parameters	Yes	No	Feedback
• Were the pharmaceutical care services provided by students discussed?			
• Was the participation during the case presentation satisfactory?			
• Was the punctuality of the student in daily activities satisfactory?			
• Was the student consistent in documenting clinical pharmacy services?			
• Was the student's professional relationship with patients and healthcare workers satisfactory?			
• Was the student's interpersonal and intergroup behavior satisfactory?			
• Was the overall interaction of the student with the preceptor satisfactory?			

Overall Performance	Poor	Fair	Below Average	Average	Above Average	Excellent
	0	1	2	3	4	5

Performance Evaluation for Interns

During mid-rotation, the interns upload a minimum of eight cases (2 per week for first 4 weeks) in PharmAcademic after the discussion with the preceptor on weekly basis. The other activities such as, treatment chart review, drug information, poison information, adverse drug reaction, adverse events following immunization, pharmacist intervention, patient counseling, patient referral, dose division, case presentation, seminar/assignment are also evaluated both qualitatively and quantitatively.

At the end of rotation, the student and preceptor needs to make the evaluation as described below

Sl. No.	Competency	Grade (1-4)	
		Self Evaluation	Preceptor Evaluation
1.	Develops a professional relationship with the patient		
2.	Gathers and documents patient information		
3.	Performs treatment chart review & recognizes drug related problems (DRP's)		
4.	Suggestion of remedies to DRP's		
5.	Monitors and reports ADR's		
6.	Provision of Drug & Poison Information		
7.	Patient counseling skills		
8.	Attends to patient referrals effectively		
9.	Maintains rapport with physician/unit head		
10.	Consistent documentation of clinical pharmacy activities		
11.	Interpersonal & intergroup behavior		
12.	Personal & Professional behavior		

Select the rating the most accurately reflect the student's performance

Overall Performance	Grade -1	Grade -2	Grade -3	Grade -4
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Further, as per the requirements of Pharmacy Council of India, students are graded for each of the rotations on the scale of 0-5 (0=Poor; 1=Fair; 2=Below Average; 3=Average; 4=Above Average; 5=Excellent) by the preceptor as specified below.

SI No	Competency	Score (0-5)
1	Proficiency of knowledge required for each case management	
2	The competency & skills expected for providing clinical pharmacy services	
3	Responsibility, punctuality, work-up of case, involvement in patient care	
4	Ability to work in a team (Behaviour with other healthcare professionals including medical doctors, nursing staff and colleagues)	
5	Initiative, participation in discussion and research aptitude.	

Overall Score

Poor	Fair	Below Average	Average	Above Average	Excellent
0	1	2	3	4	5

A score of less than 3 in any of the above items will represent unsatisfactory completion of internship. Also, preceptors are expected to write specific observations about the intern in the logbook. At the end of the rotation, students have to obtain signature from Head of the department.

a) Evaluation of Preceptor

The interns are required to give their unbiased feedback about the preceptor in the PharmAcademic at the end of the rotation. The methods of assessment of the preceptor is designed to promote the development in the student of their ability to offer constructive criticism in a manner appropriate to interprofessional relationships. The assessment includes each preceptor's ability to facilitate learning, communication skills, quality as a professional role model and adequate knowledge related to pharmacy education. The Head of the Department of Pharmacy Practice collectively, monitor and oversee the process, and the

information gathered will be used for the preceptor mentoring, quality enhancement, and better student-learning outcomes.

<i>Criteria</i>	<i>Grade</i>
How was the quality of orientation provided in the beginning of rotation?	<input type="checkbox"/> Good <input type="checkbox"/> Satisfactory <input type="checkbox"/> Average <input type="checkbox"/> Poor
How preceptor followed up your activities?	<input type="checkbox"/> Good <input type="checkbox"/> Satisfactory <input type="checkbox"/> Average <input type="checkbox"/> Poor
How preceptor provided you with feedback on your activities?	<input type="checkbox"/> Good <input type="checkbox"/> Satisfactory <input type="checkbox"/> Average <input type="checkbox"/> Poor
How exposure to real life cases was provided by preceptor?	<input type="checkbox"/> Good <input type="checkbox"/> Satisfactory <input type="checkbox"/> Average <input type="checkbox"/> Poor
How preceptor shared his/her clinical knowledge with student?	<input type="checkbox"/> Good <input type="checkbox"/> Satisfactory <input type="checkbox"/> Average <input type="checkbox"/> Poor
How preceptor motivated you for better learning?	<input type="checkbox"/> Good <input type="checkbox"/> Satisfactory <input type="checkbox"/> Average <input type="checkbox"/> Poor
How was the attitude and behavior of preceptor?	<input type="checkbox"/> Good <input type="checkbox"/> Satisfactory <input type="checkbox"/> Average <input type="checkbox"/> Poor
Overall feedback about preceptor	<input type="checkbox"/> Good <input type="checkbox"/> Satisfactory <input type="checkbox"/> Average <input type="checkbox"/> Poor
Was rotation found to be satisfactory?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Any other comments about the preceptor	

b) Evaluation of practice site

External site coordinator and preceptors at different practice sites are required to give the feedback about the practice site pertaining to the issues related to administration and facilities. Interns are also required to provide their feedback and record it in PharmAcademic under the section, ‘any other comments about the preceptor’ to keep up the quality of the practice sites. The Head of the Department of Pharmacy Practice collectively monitors and oversees the process, and the information gathered will be used for the process of site improvement.

VII. Doctor of Pharmacy (PharmD) curriculum

(adapted from PharmD Regulations 2008, Pharmacy Council of India)

Pharm D course of JSS College of Pharmacy, JSS AHER is approved by Pharmacy Council of India (PCI) and follows the below mentioned PCI regulations. Regulations framed under section 10 of the Pharmacy Act, 1948 (8 of 1948). (As approved by the Government of India, Ministry of Health vide, letter No.V.13013/1/2007-PMS, dated the 13th March, 2008 and notified by the Pharmacy Council of India). No.14-126/2007-PCI. — In exercise of the powers conferred by section 10 of the Pharmacy Act, 1948 (8 of 1948), the Pharmacy Council of India, with the approval of the Central Government.

Duration of the course

a) *Pharm D*: The duration of the course shall be six academic years (five years of study and one year of internship or residency) full time with each academic year spread over a period of not less than two hundred working days. The period of six years' duration is divided into two phases

Phase I-Consisting of First, Second, Third, Fourth Fifth academic year

Phase II- consisting of internship training during sixth year involving posting in specialty units. It is a phase of training wherein a student is exposed to actual pharmacy practice or clinical pharmacy services and acquires skill under supervision so that he or she may become capable of functioning independently.

b) *Pharm D. (Post Baccalaureate)*: The duration of the course shall be for three academic years (two years of study and one-year internship or residency) full time with each academic year spread over a period of not less than two hundred working days. The period of three years' duration is divided into two phases

Phase I-consisting of First and Second academic year

Phase II- Consisting of internship training during third year involving posting in specialty units. It is a phase of training wherein a student is exposed to actual pharmacy practice or clinical pharmacy services, and acquires skill under supervision so that he or she may become capable of functioning independently.

Minimum qualification for admission to

a) *Pharm D Part-I Course* – A pass in any of the following examinations - (1) 10+2 examination with Physics and Chemistry as compulsory subjects along with one of the following subjects: Mathematics or Biology. (2) A pass in D.Pharm course from an institution approved by the Pharmacy Council of India under section 12 of the Pharmacy Act.

(3) Any other qualification approved by the Pharmacy Council of India as equivalent to any of the above examinations.

b) *Pharm D (Post Baccalaureate) Course* - A pass in B.Pharm from an institution approved by the Pharmacy Council of India under section 12 of the Pharmacy Act: Provided that there shall be reservation of seats for the students belonging to the Scheduled Castes, Scheduled Tribes and other Backward Classes in accordance with the instructions issued by the Central Government/State Government/Union Territory Administration as the case may be from time to time. Number of admissions in the above said programmes shall be as prescribed by the Pharmacy Council of India from time to time and presently be restricted as below – i) PharmD Programme – 30 students. ii) PharmD (Post Baccalaureate) Programme – 10 students. Institutions running B.Pharm programme approved under section 12 of the Pharmacy Act, will only be permitted to run PharmD programme. PharmD (Post Baccalaureate) programme will be permitted only in those institutions which are permitted to run PharmD programme.

Course of study – The course of study for PharmD shall include the subjects as given in the Tables below. The number of hours in a week, devoted to each subject for its teaching in theory, practical and tutorial shall not be less than that noted against it in columns (3), (4) and (5) in the below tables.

Table 1: Pharm. D – First Year

Sl. No.	Name of Subject	No. of hours of Theory	No. of hours of Practical	No. of hours of Tutorial
(1)	(2)	(3)	(4)	(5)
1.1	Human Anatomy and Physiology	3	3	1
1.2	Pharmaceutics	2	3	1
1.3	Medicinal Biochemistry	3	3	1
1.4	Pharmaceutical Organic Chemistry	3	3	1
1.5	Pharmaceutical Inorganic Chemistry	2	3	1
1.6	Remedial Mathematics/ Biology	3	3*	1
	Total hours	13/16⁺	15/18*	5/6⁺* = 33/37⁺/40*

⁺ For Mathematics (PCB students) * For Biology (PCM students)

Table 2: Pharm. D – Second Year

Sl.No.	Name of Subject	No. of hours of Theory	No. of hours of Practical	No. of hours of Tutorial
(1)	(2)	(3)	(4)	(5)
2.1	Pathophysiology	3	-	1
2.2	Pharmaceutical Microbiology	3	3	1
2.3	Pharmacognosy & Phytopharmaceuticals	3	3	1
2.4	Pharmacology-I	3	-	1
2.5	Community Pharmacy	2	-	1
2.6	Pharmacotherapeutics-I	3	3	1
	Total hours	17	9	6
	Grand Total	32 hrs/ week		

Table 3: Pharm. D – Third Year

Sl.No.	Name of Subject	No. of hours of Theory	No. of hours of Practical	No. of hours of Tutorial
(1)	(2)	(3)	(4)	(5)
3.1	Pharmacology-II	3	3	1
3.2	Pharmaceutical Analysis	3	3	1
3.3	Pharmacotherapeutics-II	3	3	1
3.4	Pharmaceutical Jurisprudence	2	-	-
3.5	Medicinal Chemistry	3	3	1
3.6	Pharmaceutical Formulations	2	3	1
	Total hours	16	15	5
	Grand Total	36 hrs/ week		

Table 4: Pharm. D – Fourth Year

Sl.No.	Name of Subject	No. of hours of Theory	No. of hours of Practical/ Hospital Posting	No. of hours of Tutorial
(1)	(2)	(3)	(4)	(5)
4.1	Pharmacotherapeutics-III	3	3	1
4.2	Hospital Pharmacy	2	3	1
4.3	Clinical Pharmacy	3	3	1
4.4	Biostatistics & Research Methodology	2	-	1
4.5	Biopharmaceutics & Pharmacokinetics	3	3	1
4.6	Clinical Toxicology	2	-	1
4.7	Pharmacotherapeutics I & II*	3	3	1
	Total hours	15/18	12/15	6/7 = 33/40*

* Additional subject for Post Baccalaureate students

Table 5: Pharm. D – Fifth Year

Sl.No.	Name of Subject	No. of hours of Theory	No. of hours of Practical/ Hospital Posting	No. of hours of Seminar
(1)	(2)	(3)	(4)	(5)
5.1	Clinical Research	2	--	1
5.2	Pharmacoepidemiology and Pharmacoeconomics	3	--	1
5.3	Clinical Pharmacokinetics & Pharmacotherapeutic Drug Monitoring	2	--	1
5.4	Clerkship *	--	--	1
5.5	Project work (Six Months)	--	20	--
	Total hours	7	20	4
	Grand Total	31 hrs/ week		

Sixth Year:

Internship or residency training includes postings in specialty units. Student should independently provide the clinical pharmacy services to the allotted wards.

- (i) Six months in General Medicine department, and
- (ii) Two months each in three other specialty departments

Examination – (1) every year there shall be an examination to examine the students. (2) Each examination may be held twice every year. The first examination in a year shall be the annual examination and the second examination shall be supplementary examination. (3) The examinations shall be of written/theory and practical (including oral nature) carrying maximum marks of 100 (examination (70 marks) and sessional (30 marks)) for each subject as per the curriculum.

Eligibility for appearing Examination: Only such students who produce certificate from the Head of the Institution in which he or she has undergone the PharmD or as the case may be, the PharmD (Post Baccalaureate) course, in proof of his or her having regularly and satisfactorily undergone the course of study by attending not less than 80% of the classes held both in theory and in practical separately in each subject shall be eligible for appearing at examination.

Mode of examination: (1) Theory examination shall be of three hours and practical examination shall be of four hours duration. (2) A Student who fails in theory or practical examination of a subject shall re-appear both in theory and practical of the same subject. (3) Practical examination shall also consist of a viva –voce (Oral) examination. (4) Clerkship examination – Oral examination shall be conducted after the completion of clerkship of

students. An external and an internal examiner will evaluate the student. Students may be asked to present the allotted medical cases followed by discussion. Students' capabilities in delivering clinical pharmacy services, pharmaceutical care planning and knowledge of therapeutics shall be assessed.

Award of sessional marks and maintenance of record: (1) A regular record of both theory and practical class work and examinations conducted in an institution imparting training for Pharm D or as the case may be, Pharm D (Post Baccalaureate) course, shall be maintained for each student in the institution and 30 marks for each theory and 30 marks for each practical subject shall be allotted as sessional. (2) There shall be at least two periodic sessional examinations during each academic year and the highest aggregate of any two performances shall form the basis of calculating sessional marks. (3) The sessional marks in practicals shall be allotted on the following basis

- (i) Actual performance in the sessional examination (20 marks)
- (ii) Day to day assessment in the practical class work, promptness, viva-voce record maintenance, etc. (10 marks)

Minimum marks for passing examination: A student shall not be declared to have passed examination unless he or she secures at least 50% marks in each of the subjects separately in the theory examinations, including sessional marks and at least 50% marks in each of the practical examinations including sessional marks. The students securing 60% marks or above in aggregate in all subjects in a single attempt at the PharmD or as the case may be, PharmD (Post Baccalaureate) course examination shall be declared to have passed in first class. Students securing 75% marks or above in any subject or subjects shall be declared to have passed with distinction in the subject or those subjects provided he or she passes in all the subjects in a single attempt.

Eligibility for promotion to next year: All students who have appeared for all the subjects and passed the first year annual examination are eligible for promotion to the second year and, so on. However, failure in more than two subjects shall debar him or her from promotion to the next year classes.

Internship: (1) Internship is a phase of training wherein a student is expected to conduct actual practice of pharmacy and health care and acquires skills under the supervision so that he or she may become capable of functioning independently. (2) Every student has to undergo one-year internship.

Pharmacy practice experience program

Hospital posting: Every student shall be posted in constituent hospital for a period of not less than fifty hours to be covered in not less than 200 working days in each of second, third & fourth year course. Each student shall submit report duly certified by the preceptor and duly attested by the Head of the Department or Institution as prescribed.

In the fifth year, every student shall spend half a day in the morning hours attending ward rounds on daily basis as a part of clerkship. Theory teaching may be scheduled in the afternoon.

Project work: (1) To allow the student to develop data collection and reporting skills in the area of community, hospital and clinical pharmacy, a project work shall be carried out under the supervision of a teacher. The project topic must be approved by the Head of the Department or Head of the Institution. The same shall be announced to students within one month of commencement of the fifth year classes. Project work shall be presented in a written report and as a seminar at the end of the year. External and the internal examiners shall do the assessment of the project work. (2) Project work shall comprise of objectives of the work, methodology, results, discussions and conclusions.

Objectives of project work: The main objectives of the project work is to (i) show the evidence of having made accurate description of published work of others and of having recorded the findings in an impartial manner; and (ii) develop the students in data collection, analysis and reporting and interpretation skills.

Methodology: To complete the project work following methodology shall be adopted, namely students shall work in groups of not less than *two* and not more than *four* under an authorised teacher; (ii) project topic shall be approved by the Head of the Department or Head of the Institution; (iii) project work chosen shall be related to the pharmacy practice in community, hospital and clinical setup. It shall be patient and treatment (Medicine) oriented, like drug utilization reviews, pharmacoepidemiology, pharmacovigilance or pharmacoconomics; (iv) project work shall be approved by the institutional ethics committee; (v) student shall present at least three seminars, one in the beginning, one at middle and one at the end of the project work; and (vi) two-page write-up of the project indicating title, objectives, methodology anticipated benefits and references shall be submitted to the Head of the Department or Head of the Institution.

Reporting : (1) Student working on the project shall submit jointly to the Head of the Department or Head of the Institution a project report of about 40-50 pages. Project report

should include a certificate issued by the authorized teacher, Head of the Department as well as by the Head of the Institution (2) Project report shall be computer typed in double space using Times Roman font on A4 paper. The title shall be in bold with font size 18, sub-titles in bold with font size 14 and the text with font size 12. The cover page of the project report shall contain details about the name of the student and the name of the authorized teacher with font size 14. (3) Submission of the project report shall be done at least one month prior to the commencement of annual or supplementary examination.

Evaluation: The following methodology shall be adopted for evaluating the project work (i) Project work shall be evaluated by internal and external examiners. (ii) Students shall be evaluated in groups for four hours (i.e., about half an hour for a group of four students). (iii) Three seminars presented by students shall be evaluated for twenty marks each and the average of best two shall be forwarded to the university with marks of other subjects.

(iv) Evaluation shall be done on the following items:	Marks
a) Write up of the seminar	(7.5)
b) Presentation of work	(7.5)
c) Communication skills	(7.5)
d) Question and answer skills	(7.5)
Total	(30 marks)
(v) Final evaluation of project work shall be done on the following items:	Marks
a) Write up of the seminar	(17.5)
b) Presentation of work	(17.5)
c) Communication skills	(17.5)
d) Question and answer skills	(17.5)
Total	(70marks)

Explanation. — For the purposes of differentiation in the evaluation in case of topic being the same for the group of students, the same shall be done based on item numbers b, c and d mentioned above.

Internship program:

Internship/residency training will be in the final year of the course. The training program provides the exposure to actual pharmacy practice or clinical pharmacy services. Student pharmacist gets an opportunity to acquire practice skills to function independently. Every candidate shall be required, after passing the final Pharm D or Pharm D (Post Baccalaureate)

examination as the case may be to undergo compulsory rotational internship to the satisfaction of the College authorities and University concerned for a period of twelve months so as to be eligible for the award of the degree of Pharm D or Pharm D (Post Baccalaureate). Internship or residency training includes postings General Medicine department (compulsory) for six months and two months in any three other specialty departments such as Pediatrics, Surgery , Gynecology and obstetrics, Psychiatry , dermatology, and Orthopedics.

Specific objectives of internship:

- To provide patient care in cooperation with patients, prescribers, and other members of an interprofessional health care team based upon sound therapeutic principles and evidence-based data, taking into account relevant legal, ethical, social cultural, economic, and professional issues, emerging technologies, and evolving biomedical, pharmaceutical, social or behavioral or administrative, and clinical sciences that may impact therapeutic outcomes.
- To manage and use resources of the health care system, in cooperation with patients, prescribers, other health care providers, and administrative and supportive personnel, to promote health; to provide, assess, and coordinate safe, accurate, and time-sensitive medication distribution; and to improve therapeutic outcomes of medication use.
- To promote health improvement, wellness, and disease prevention in co-operation with patients, communities, at-risk population, and other members of an interprofessional team of health care providers.
- To demonstrate skills in monitoring of the National Health Programmes and schemes, oriented to provide preventive and promotive health care services to the community.
- To develop leadership qualities to function effectively as a member of the health care team organized to deliver the health and family welfare services in existing socio-economic, political and cultural environment.
- To communicate effectively with patients and the community.

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