



# KALINGA UNIVERSITY



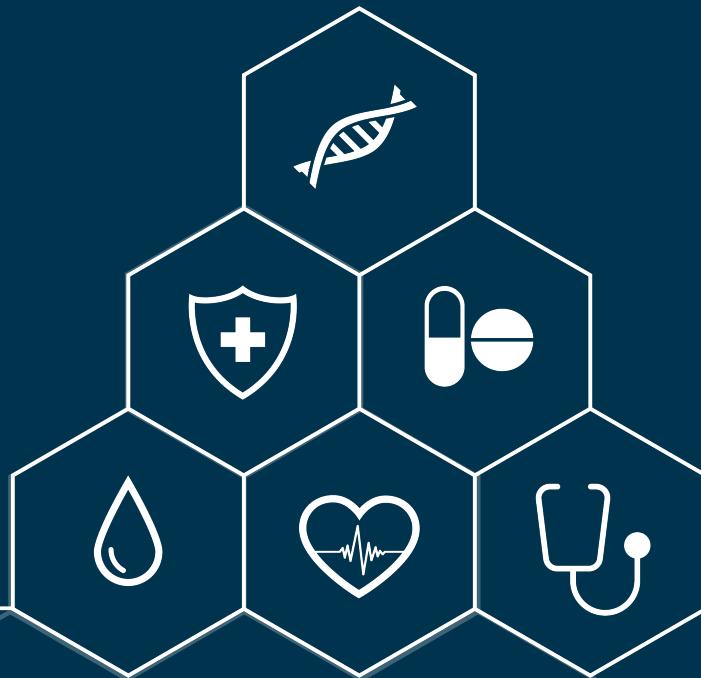
## CENTRAL INSTRUMENTATION FACILITY

— Announces —

# INTERNSHIP PROGRAM - 6 MONTHS

— On —

## PHARMACEUTICAL TECHNIQUES



**FROM - 3<sup>rd</sup> JANUARY 2023**

[www.kalingauniversity.ac.in](http://www.kalingauniversity.ac.in)

KALINGA UNIVERSITY, KOTNI, NEAR MANTRALAYA, NAYA RAIPUR - 492101, CHHATTISGARH, INDIA.

# ABOUT KALINGA UNIVERSITY, NAYA RAIPUR, CHHATTISGARH



Kalinga University, Raipur has emerged as a center of excellence in higher education in Central India. Strategically located in the Smart City of New Raipur, this University has started carving a niche for itself in the education domain and is rising as a shining star on the horizon of quality education. Established in 2013, this university has been able to win the confidence of over 7000 students. The University has been accredited by NAAC with B+ Grade & is included in NIRF ranking of top 101-150 universities in India. Meritorious students from all over the country and various foreign countries namely Afghanistan, Angola, Bangladesh, Cameroon, Gambia, Ivory Coast, Kenya, Lesotho, Liberia, Malawi, Namibia, Nepal, Nigeria, Papua New Guinea, South Sudan, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe etc. have chosen this University for their education and career.

All schools are headed by senior professors having excellent academic credentials and experience in teaching, publications and research. They are ably supported by well-qualified faculty members who come from top educational institutions and the Industry. Students also get an opportunity to learn from a distinguished panel of experts drawn from various industries, who regularly come for guest lectures. A centre for Doctoral research programmes in various fields. Currently, the University is serving the student community through various UG and PG programs namely Engineering, Law, Pharmacy, Arts & Humanities, Science, Commerce & Management, Biotechnology, Information Technology, Library Science, Fashion Design & Interior Design.

Kalinga boasts of World Class Infrastructure and student facilities with student centric approach. The highest attention is paid to hands on learning approach and students are encouraged to come up with innovative ideas for projects and practicals. The University has more than 75 laboratories and workshops, all well equipped with the latest, state of the art apparatus and tools. Special emphasis is given to the development of communication skills through the language lab. More than 1200 computers are available for the use of the students.

The Library has a collection of over 80,000+ books and also offers Digital content through membership of DELNET, National Digital Library and NPTEL. Various magazines and journals are available for the use of the faculty and students.

The infrastructure consists of Student Hostel facilities, Green Acres, Canteen, Food Mess, Gymnasium, Fully Wi-Fi Campus, ATM, Mini Market, Student hangout Areas, Sports Complex, Re-creation Halls with Indoor Games and Music and recreation activities.

Industry interaction is an integral part of the curriculum and Industrial visits, internships on live projects and mentoring by the Industry leaders are regular features. The University has developed excellent connections with the top Industries of the region by taking memberships in leading industry associations like Confederation of Indian Industries, Ph.D. Chamber of Commerce and Industry, Federation of Indian Chamber of Commerce and Industry and Indian Importers Chamber of Commerce and Industry. The University has an active chapter of Young Indians in which students get an opportunity to interact extensively with the Industry leaders and attend various corporate seminars and events.

Kalinga is a Life Changing experience where the stress is on the overall development of students. NCC, NSS and Various other clubs and societies offer opportunities to students to showcase their talent and learn under the guidance of experts. Music, dance and martial arts trainers are available for the students. Coaches of different games and sports like Cricket, Football, Basketball, Volleyball and athletics are also available for sharpening the talent of the students.

## **About The Internship Program**

The main objective of this program is to encourage the bright and well-motivated students of Kalinga University and other institutions to pursue innovative research and development of project work. This enables the trainees to gain first-hand knowledge, especially working skills with sophisticated instruments frequently used in research setup and in Pharma, Life Sciences, & Biotech industry

### **PROGRAM DETAILS**

**Duration:** 6 Months

**Date:** Monday to Saturday

**Time:** 10:00 AM to 4:00 PM

**Venue:** Central Instrumentation Facility, Kalinga University

**Program Fee: Rs 25,000/-.**



## STEPS FOR REGISTRATION

STEP 1: Participants have to make payment on the given bank details

Account Name: Kalinga University

Bank Name: ICICI bank A/c No.: 390701000010

IFSC Code No.: ICIC0003907

SWIFT CODE: ICICINBBCTS



STEP 2: Take screenshot of the payment & send it to [cif@kalingauniversity.ac.in](mailto:cif@kalingauniversity.ac.in)

STEP 3: Fill out the registration form with all the necessary information.

Note:

1. Accommodation facility is available on chargeable basis: Rs. 6,500/- Per Month inclusive of Food (Air Cooled Room - 4 Students/room, 3 Meals per day & other amenities).
2. Transport Facility available from common pickup point (Free).

## RESOURCE PERSONS

Dr. Sandip Prasad Tiwari (Principal, Faculty of Pharmacy)

Mr. Sudeep Mandal (Assistant Professor, Faculty of Pharmacy)

Ms. Khushboo Gupta (Assistant Professor, Faculty of Pharmacy)

Ms. Rajni Yadav (Assistant Professor, Faculty of Pharmacy)

Mr. Pranjul Shrivastava (Assistant Professor, Faculty of Pharmacy)

Mr. Deependra Soni (Assistant Professor, Faculty of Pharmacy)

Mrs. Srishti Namdev (Assistant Professor, Faculty of Pharmacy)

Mr. Saurabh Sharma (Assistant Professor, Faculty of Pharmacy)

## WHO SHOULD ATTEND:

**BENEFICIAL FOR** - Students of UG/PG Programs & Research Scholars of Pharmacy, Biotechnology, Botany, Zoology, Microbiology, Biochemistry, Bioinformatics & other Life Sciences.

## ELIGIBILITY CRITERIA

1. Students who are pursuing their Graduation/Post-Graduation and are in their final semester are eligible for 6 months internship program.
2. Pursuing Post-Graduation in the fields of Pharmaceutical/Chemical/Life Sciences leading to M.Pharm./M.S./M.Sc. degree from any recognized Indian/Foreign University.
3. One page curriculum vitae/bio-data of the participant.
4. Based on the merit, the students will be shortlisted and intimated via e-mail.
5. The students need to fill the Application Form for internship and furnish all relevant information/documents as mentioned in the application form.

## REGISTRATION LINK

<https://docs.google.com/forms/d/1a9XIJq9mwxU6-oxGrx7joaFdGg984SrYIRNYgEDDoBY/edit>

# PROGRAM SCHEDULE

<b>Module I Pharmaceutics</b>		
<b>S.No</b>	<b>Topics</b>	<b>Duration</b>
<b>01</b>	Introduction to Preformulation and their Parameters	<b>30 Days</b>
<b>02</b>	Overview on granulation techniques	
<b>03</b>	Formulation of tablets by different granulation techniques	
<b>04</b>	Characterization and Evaluation of Prepared tablets	
<b>05</b>	Introduction to standard curve for dissolution study	
<b>06</b>	Comparative study between Marketed and laboratory prepared tablets	
<b>07</b>	Formulation and characterization of sustained release tablets	
<b>08</b>	Comparative release study in Marketed and Prepared tablets	

<b>Module II Instrumental Analysis</b>		
<b>S.No</b>	<b>Topics</b>	<b>Duration</b>
<b>01</b>	Introduction and handling of UV Spectroscopy	<b>30 Days</b>
<b>02</b>	Determination of Calibration curve by UV Spectroscopy	
<b>03</b>	Determination of sample purity by UV Spectroscopy	
<b>04</b>	Introduction to IR Spectroscopy	
<b>05</b>	Sample analysis with IR Spectroscopy	
<b>06</b>	Introduction and SOP of HPLC	
<b>07</b>	Sample determination through HPLC	
<b>08</b>	Introduction to XRD and application	
<b>09</b>	Sample analysis on XRD	
<b>10</b>	Estimation by colorimetric method	
<b>11</b>	Simultaneous estimation	
<b>12</b>	Paper chromatography, Thin layer Chromatography	
<b>13</b>	Determination by Nephelo turbidometry	

<b>Module III Pharmacology &amp; Toxicology</b>		
<b>S.No</b>	<b>Topics</b>	<b>Duration</b>
<b>01</b>	Introduction to pharmacological & toxicological principles	<b>45 Days</b>
<b>02</b>	Experimental in-vitro pharmacology principles	
<b>03</b>	Commonly used instruments in experimental pharmacology	
<b>04</b>	Study of common laboratory animals	
<b>05</b>	Maintenance of laboratory animals as per CPCSEA guidelines	
<b>06</b>	Common laboratory techniques for blood withdrawal, serum and plasma separation, anesthetics and euthanasia used for animal studies	
<b>07</b>	Study of different routes of drugs administration in mice/rats	
<b>08</b>	Animal simulated experiments by software demonstration and the importance of software application in pharmacology	
<b>09</b>	Study of effect of drugs on ciliary motility of frog oesophagus	
<b>10</b>	Behavioral studies effecting the function of central nervous system	
<b>11</b>	Study of effect of various drugs on rabbit eye	
<b>12</b>	Importance of various physiological salt solutions for cells and tissues	
<b>13</b>	Principles of OECD guidelines and dose calculations	
<b>14</b>	Study of anti-inflammatory effect	
<b>15</b>	Study of analgesic effect by central and peripheral methods	
<b>16</b>	Estimation of serum biochemical parameters by using biochemical analyzer	
<b>17</b>	Application of biostatistics in pharmacology by using softwares	
<b>18</b>	Determination of acute skin irritation / corrosion of a test substance	
<b>19</b>	Insulin hypoglycemic effect in rabbit	
<b>20</b>	Determination of acute eye irritation / corrosion of a test substance	
<b>21</b>	Applications of biotechnological principles in various drug formulations	

## PROGRAM SCHEDULE

<b>Module IV Pharmaceutical Chemistry</b>		
<b>S.No</b>	<b>Topics</b>	<b>Duration</b>
<b>01</b>	Basic Techniques: - Calibration of thermometer and finding melting point, mixed melting point and boiling point. - Purification and drying of organic solvents	<b>30 Days</b>
<b>02</b>	- Crystallization - Distillation, Fractional Distillation, Distillation under reduced pressure	
<b>03</b>	Separation and identification of organic compounds from binary mixtures: Solid-solid, solid-liquid and liquid-liquid	
<b>04</b>	Spectral analysis: a) Spectra to be recorded for some compounds and analyzed. b) Analysis of pre-recorded spectra.	
<b>05</b>	Basic learning on ACD Chem Sketch software, Cambridge ChemDraw Ultra software, Chem3D software and Autodock software	

<b>Module V Pharmacognosy</b>		
<b>S.No</b>	<b>Topics</b>	<b>Duration</b>
<b>01</b>	Quantification of phyto-constituents in herbal extracts.	<b>45 Days</b>
<b>02</b>	Standardization of Herbal Extracts.	
<b>03</b>	Extraction and isolation of Phytoconstituents, Formulation and evaluation of herbal gel, hair oil, herbal cream, face pack, etc.	
<b>04</b>	Development and evaluation Ayurvedic Herbal Nutraceutical Dietary Supplement Cosmeceutical Products.	
<b>05</b>	Analysis of Pharmacopoeial compounds of natural origin and their formulations by UV spectrophotometer	
<b>06</b>	Fingerprinting Analysis of selected medicinal plant extracts commonly used in herbal drug industry Phytochemical screening of Natural Drugs	
<b>07</b>	Monograph analysis of herbal drugs Morphological and microscopical study of Crude drugs Qualitative analysis of Crude Drugs	

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