



CALIFORNIA  
NORTHSTATE  
COLLEGE *of*  
PHARMACY

# Catalog | 2009-2010

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## ***History of the College***

California Northstate College of Pharmacy is an autonomous institution that was conceived by a group of independent and corporate pharmacy managers who were having difficulty hiring enough pharmacists to adequately staff their pharmacies. After researching the problem thoroughly, they discovered that the state of California has only half the number of practicing pharmacists per 100,000 capita as many other states in the union. The shortage would continue to escalate unless something was done. A case for a new pharmacy school in California was so compelling that the group decided to start a new school in the Sacramento area.

The founding pharmacists of California Northstate College of Pharmacy recruited a number of investors who shared their vision to create a new, quality college of pharmacy, and now they had the financial resources to do it. The College was established within a limited liability company that was formally organized in the state of Delaware on January 17, 2007. Registration to do business in the state of California was obtained on February 2, 2007, and approval to operate as a professional doctorate educational institution in California was granted by the Bureau for Private Postsecondary and Vocational Education on April 15, 2007.

California Northstate College of Pharmacy received eligibility from Western Association of Schools and Colleges (WASC) on March 15, 2007 and was granted pre-candidate status by the Accreditation Council for Pharmacy Education (ACPE) during the June 18-22, 2008 meeting.

Dr. David Hawkins was named Founding Dean of the College on June 1, 2007, and began immediately recruiting his executive team and faculty. Dean Hawkins has more than 34 years of experience in academic pharmacy and is committed to developing a college with a strong teaching and research program.

The Charter Class of California Northstate College of Pharmacy began their doctoral program of study on September 2, 2008. The second Class, the Class of 2013, began their course of study on August 31, 2009.

## ***College Mission, Values, and Goals***

- Mission:** To advance the science and art of pharmacy.
- Vision:** To transform pharmacy education by incorporating team-based learning into every course.
- Values:** Advancing our college, goals, and discipline  
Caring about our students, staff, and profession  
Teamwork in teaching, learning, research, and service.

To fulfill our mission, we believe that we must reach the following goals in education, research, scholarship, and service.

### **Educational Goals:**

1. An academic program that fosters critical thinking, problem-solving, clinical reasoning, and self-directed learning skills.
2. An experiential program that progressively develops student skills, attitudes, values, judgment, professional behavior, and expertise in patient-centered care.
3. Graduates who attain effective oral and written communication skills.
4. Graduates who use technology to support life-long learning, research, and practice.

### **Research and Scholarship Goals:**

1. A research infrastructure that promotes collaboration, innovation, and discovery.
2. A faculty engaged in discipline-related research and other scholarly activities.
3. A faculty development program that nurtures and supports a learning-centered curriculum and the scholarship of teaching.

### **Service Goals:**

1. Faculty engaged in professional and community activities.
2. A continuing education program responsive to the needs of alumni, pharmacy practitioners, and other health care professionals.
3. Student participation in professional organizations and community projects to learn skills needed to be an advocate for the profession.

## **Accreditation**

### **Accreditation Council for Pharmacy Education (ACPE)**

The Accreditation Council for Pharmacy Education (ACPE) accredits Doctor of Pharmacy programs offered by Colleges and Schools of Pharmacy in the United States and selected non-US sites. For a Doctor of Pharmacy program offered by a new College or School of Pharmacy, ACPE accreditation generally involves three steps: Pre-candidate status, Candidate status, and Full accreditation. Pre-candidate accreditation status denotes a developmental program, which is expected to mature in accord with stated plans and within a defined time period. Pre-candidate status is awarded to a new program of a College or School of Pharmacy that has not yet enrolled students in the professional program, and authorizes the college or school to admit its first class. Candidate accreditation status is awarded to a Doctor of Pharmacy program that has students enrolled, but has not yet had a graduating class. Full accreditation is awarded to a program that has met all ACPE standards for accreditation and has graduated its first class. Graduates of a class designated as having Candidate status have the same rights and privileges of those graduates from a fully accredited program. ACPE conveys its decisions to the various boards of pharmacy and makes recommendations in accord with its decisions. It should be noted, however, that decisions concerning eligibility for licensure, by examination or reciprocity, reside with the respective state boards of pharmacy in accordance with their state statutes and administrative rules.

The Doctor of Pharmacy program of the California Northstate College of Pharmacy was awarded pre-candidate status during the June 18-22, 2008 meeting of the ACPE Board of Directors, based upon an on-site evaluation conducted April 24-25, 2008, and discussion with College officials. Following the enrollment of the inaugural class of students in fall 2008, an on-site evaluation will be scheduled during academic year 2008-2009 for purposes of gathering additional information to be considered in the Board's consideration of advancement to Candidate accreditation status. Based upon this evaluation, should the Board feel that Candidate status cannot be conferred; the College could respond to the Board's concerns and reapply prior to the graduation of the first class. If Candidate status is not granted, even after reapplication, graduates may not be eligible for licensure as pharmacists. If Candidate status is granted and the program continues to develop as planned, full accreditation of the Doctor of Pharmacy program would be considered by the Board following the graduation of students from the program.

### **Western Association of Schools and Colleges (WASC)**

California Northstate College of Pharmacy has applied for Eligibility from the Senior College Commission of the Western Association of Schools and Colleges. WASC has reviewed the application and determined that California Northstate College of Pharmacy is eligible to proceed with an application for Candidacy for Accreditation. A determination of Eligibility is not a formal status with the Accrediting Commission, nor does it assure eventual accreditation; it is a preliminary finding that the institution is potentially accreditable and can proceed within three years of its Eligibility determination to be reviewed for Candidacy status with the Accrediting Commission. Questions about Eligibility may be directed to the institution or to WASC at [wascsr@wascsenior.org](mailto:wascsr@wascsenior.org) or call 510.748.9001.

## Bureau for Private Postsecondary Education (BPPE)

Approval to operate as a private degree-granting college of pharmacy in California was obtained from the Bureau for Private and Postsecondary and Vocational Education (BPPVE) on April 15, 2007. BPPVE will begin operating under the name Bureau for Private Postsecondary Education (BPPE) beginning January 1, 2010. Approval or approval to operate means that the Bureau has determined that an institution meets minimum standards established by the Bureau for integrity, financial stability, and educational quality, including the offering of bona fide instruction by qualified faculty and the appropriate assessment of students' achievement prior to, during, and at the end of its program.

The Bureau for Private Postsecondary and Vocational Education (Bureau) was a state regulatory agency within the California Department of Consumer Affairs (DCA), established in January 1998. The Bureau was responsible for approving and regulating private postsecondary and vocational institutes of education in California. The Bureau was established to foster and improve the educational programs and services of these institutions while protecting the citizens of the state from fraudulent or substandard operations (California Education Code §94705). In addition, the Bureau mediates complaints between students and institutions and investigates schools as necessary.

As a prospective student, you are encouraged to review this catalog prior to signing an enrollment agreement. You are also encouraged to review the School Performance Fact Sheet, which must be provided to you prior to signing the enrollment agreement.

A student or any member of the public may file a complaint about this institution with the Bureau for Private Post-Secondary Education by emailing the address below or by completing a complaint form, which can be obtained on the bureau's internet web site [www.bppve.ca.org](http://www.bppve.ca.org).

Any questions a student may have regarding this catalog that have not been answered by the institution may be directed to:

The Bureau for Private Postsecondary Education  
P.O. Box 980818  
West Sacramento, CA 95798-0818  
Web site: [www.bppve.ca.gov](http://www.bppve.ca.gov)  
E-mail: [bppve@dca.ca.gov](mailto:bppve@dca.ca.gov)

## Admission Requirements

The California Northstate College of Pharmacy (CNCPharm) participates in the national Pharmacy College Application System (PharmCAS). Applicants for admission to the entry-level Doctor of Pharmacy program at CNCPharm are required to complete and submit an official online application at [www.PharmCAS.org](http://www.PharmCAS.org). Applicants selected to interview must also submit a completed supplemental application and an application fee directly to the admissions office.

The admissions team will evaluate applicants for admission on an individual basis. Candidates will be required to meet all prerequisites prior to the entering the program. Prerequisites may be substituted with courses or experience that the admissions committee evaluates to be equivalent. One or more members of the admissions committee will review and evaluate each completed admissions packet to determine an invitation for an interview.

The interview will be conducted on campus by a minimum of two faculty members. During the interview, the applicant will be asked to discuss experiences, reasons of interest in pharmacy, and any related experiences. The interview is designed to assess a variety of factors including: interest, oral and written communication skills, maturity, dedication, and an assessment of the applicant's ability to complete the program successfully and advance in the field of pharmacy. In addition, the interview will be used to determine if the student has the English language proficiency to complete instruction in the English language since English is the language of instruction.

If there is a question about the level of English proficiency of an applicant whose first language is not English, and the applicant is otherwise qualified for admission, the Committee may require that the student submit scores from the Test of English as a Foreign Language (TOEFL) examination and the Test of Spoken English (TSE). The minimum score on the TSE is a 50 and the minimum score on the TOEFL is 550 paper version and 213 CBT version. Also the listening sub-score must be no lower than 50/16.

At this time, the College does not have the capacity to issue a student visa.

### Transfer from other institutions

The College will not accept transfer students from other pharmacy institutions. The student may apply for admission, but no credit will be awarded for previous courses taken at another school. This policy will remain in effect until 2013, after the first class enrolled at CNCPharm graduates.

## Pre-pharmacy Requirements

Admission to the four-year Doctor of Pharmacy program requires a baccalaureate degree from a regionally accredited college or university in the United States. Should a US resident with college coursework from a foreign college or university apply, the college and the courses will need to be evaluated for equivalency with regionally accredited standards.

The pre-pharmacy requirements were established to ensure that applicants have the primary academic background necessary to complete a rigorous professional curriculum, as well as an adequate exposure to a broad range of academic coursework. Each applicant must receive a "C" or better college credit in each prerequisite course and graduate with a minimum GPA of 2.80 on a 4.00 grade scale. The specific pre-pharmacy course requirements are:

### Pre-pharmacy course requirements

<b>COURSE</b>	<b>Semesters</b>	<b>Credits</b>
Public Speaking	1	3
Psychology	1	3
Economics	1	3
Biochemistry	1	3
Microbiology	1	4
Calculus	1	4
General Physics*	1	4
General Chemistry*	2	8
Organic Chemistry*	2	8
General Biology*	2	8
Anatomy and Physiology, or Physiology	1	4

\* Course must have a laboratory component

### Academic Calendar

<b>Fall Semester 2009</b>		
Orientation	August 27-28	
Online Registration	August 27-28	
Classes Begin	August 31	
Late Registration (with late fee)	September 1-8	
Labor Day Holiday	September 7	
Last Day to Add Classes	September 8	
Thanksgiving Vacation	November 25-27	
Classes End	December 11	
<b>FINAL EXAMS</b>	<b>December 14-18</b>	
Winter Break	Dec 21 – Jan 19	
<b>Spring Semester 2010</b>		
White Coat Ceremony	January 16	
Online Registration	January 17-18	
Classes Begin	January 19	
Late Registration (with \$75 Late fee)	January 20-27	
President's Day	February 15	
Spring Break	April 5-9	
Classes End	May 7	
<b>FINAL EXAMS</b>	<b>May 10-14</b>	
Summer Break	May 17 – Aug 30	

## *Doctor of Pharmacy Curriculum*

### YEAR 1

#### Semester One

PHAR 611: Pharmacy and the Health Care System  
 PHAR 621: Clinical Cellular & Molecular Biology & Biochemistry  
 PHAR 631: Medicinal Chemistry and Physical Pharmacy  
 PHAR 641: Self Care I  
 PHAR 661: Introduction to Pharmacy

#### COURSE COORDINATOR

John Skhal, Pharm.D  
 Xiaodong Feng, PhD  
 Tibebe Woldemariam, PhD  
 Sonya Frausto, Pharm.D  
 David Hawkins, Pharm.D

#### Semester Two

PHAR 612: Professional Communications  
 PHAR 622: Pathophysiology of Neurological and Endocrine Systems  
 PHAR 632: Biopharmaceutics, Drug Delivery, Calculations  
 PHAR 642: Self Care II  
 PHAR 662: IPPE I

Ken Miller, Ed.D  
 Leanne Coyne, PhD  
 Indiran Pather, D.Pharm  
 Maureen Lloy, Pharm.D  
 Dave Carroll, Pharm.D

### YEAR 2

#### Semester Three

PHAR 723: Pathophysiology of Cardiovascular and Renal Systems  
 PHAR 733: Basic & Clinical Pharmacokinetics  
 PHAR 743: Drug Literature Evaluation and Drug Information  
 PHAR 751: Integrated Sciences I - Neuropsychiatric and Endocrine Disorders  
 PHAR 763: IPPE II

Parto Khansari, PhD  
 Chandra Kolli, PhD  
 Scott Minor, MLS  
 Leanne Coyne, PhD  
 Dave Carroll, Pharm.D

#### Semester Four

PHAR 713: Pharmacy law and Ethics  
 PHAR 724: Pathophysiology of GI, GU, Pulmonary Systems  
 PHAR 752: Integrated Sciences II - Cardiovascular and Renal Disorders  
 PHAR 771: Longitudinal Learning Project  
 PHAR 764: IPPE III  
 PHAR 781: Electives

Paul Wagstaffe, JD  
 John Martin, PhD  
 Xiaodong Feng, PhD  
 All Faculty  
 Grant Lackey, Pharm.D  
 Various Faculty

### YEAR 3

#### Semester Five

PHAR 814: Biostatistics and Pharmacoepidemiology  
 PHAR 825: Clinical Immunology and Rheumatology  
 PHAR 853: Integrated Sciences III -GI, GU, and Pulmonary Disorders  
 PHAR 854: Integrated Sciences IV - Gynecologic and Dermatologic Disorders  
 PHAR 865: IPPE IV  
 PHAR 882: Electives

Nilesh Bhutada, PhD  
 Parto Khansari, PhD  
 Grant Lackey, Pharm.D  
 Sonya Frausto, Pharm.D  
 Dave Carroll, Pharm.D  
 Various Faculty

**Semester Six**

PHAR 815: Management and Economic Principles	Nilesh Bhutada, PhD
PHAR 826: Biotechnology and Pharmacogenomics	TBA
PHAR 844: Special Populations and Medication Safety	Maureen Lloy, Pharm.D
PHAR 855: Integrated Sciences V: Microbiology and Infectious Diseases	TBA
PHAR 856: Integrated Sciences VI: Hematology/Oncology	TBA
PHAR 872: Longitudinal Learning Project	All Faculty
PHAR 866: IPPE V	Dave Carroll, Pharm.D

**YEAR 4****Semester Seven**

PHAR 971: APPE Inpatient/Acute Care Medicine	Grant Lackey, Pharm.D
PHAR 972: APPE Hospital or Health System Pharmacy	Grant Lackey, Pharm.D
PHAR 973: APPE Elective	

Dave Carroll, Pharm.D

**Semester Eight**

PHAR 974: APPE Ambulatory Care	Grant Lackey, Pharm.D
PHAR 975: APPE Community Pharmacy	Dave Carroll, Pharm.D
PHAR 976: APPE Elective	Dave Carroll, Pharm.D

**Course Descriptions**

The core curriculum is defined as a series of courses within each major sub-discipline (i.e., biomedical, pharmaceutical, social/behavioral/administrative, clinical, and integrated sciences) that will provide adequate depth, scope, timeliness, quality, sequence, and experiences needed to accomplish the expected educational outcomes of the Doctor of Pharmacy degree program.

**1. Biomedical Sciences****PHAR 621: Cellular and Molecular Biology and Biochemistry**

This course will discuss the basic principles of the molecular basis of cellular function and control mechanisms of the human body and other living organisms, as well as biochemistry of macromolecules, enzymes, and metabolic pathways.

**PHAR 622: Pathophysiology of Neurological and Endocrine Systems**

This course will cover the functional anatomy and physiology of the nervous and endocrine systems and the pathophysiology of neurological and endocrine disorders.

**PHAR 723: Pathophysiology of Cardiovascular and Renal Systems**

This course will cover the functional anatomy and physiology of the cardiovascular and renal systems and the pathophysiology of cardiovascular and renal disorders.

**PHAR 724: Pathophysiology of the GI, GU, and Pulmonary Systems**

This course will cover the functional anatomy and physiology of the gastrointestinal, genitourinary, and pulmonary systems and the pathophysiology of GI, GU, and pulmonary, disorders

**PHAR 725:** *Clinical Immunology and Rheumatology*

This course will cover human immunology, the molecular biology of the immune response, principles of antigen-antibody relationships, and the genetic basis for antibody synthesis, development, function, and immunopathology, as well as the pathophysiology of rheumatological disorders.

**PHAR 826:** *Biotechnology and Pharmacogenomics*

This course will introduce students to the complexity of apparently simple genetic diseases, and the theoretical and technical application of combining basic research with genome sequences to create new types of medications.

## 2. Pharmaceutical Sciences

**PHAR 631:** *Drug Chemistry, Drug Design, and Molecular Modeling*

This course will discuss the physiochemical principles important for the formulation, preparation, stability, and performance of pharmaceutical dosage forms of drug products, and the concepts of pharmaceutical chemistry with specific applications in the area of drug metabolism, drug disposition, and drug toxicity.

**PHAR 632:** *Biopharmaceutics, Drug Delivery, and Calculations*

This course will discuss dosage forms in relation to drug delivery systems. It will cover routes of administration, pharmaceuticals, biopharmaceutics, bioavailability, bioequivalency, rate and extent of availability, onset and duration of effect, absorption, dissolution, disintegration, first-pass effect, passive diffusion and active transport. The course will also cover pharmaceutical calculations.

**PHAR 733:** *Basic and Clinical Pharmacokinetics*

This course will introduce a basic review of pharmacokinetic principles. It will cover the principles of bioavailability, volume of distribution, clearance, elimination rate constant, and half-life, and will include drug dosing techniques in various clinical situations.

**PHAR 771 and PHAR 872:** *Longitudinal Learning Project I and II*

This course sequence is designed to give students the opportunity to engage in a mini-research project with a faculty mentor and learn how to define a research question, formulate a hypothesis, access and evaluate pertinent published literature, conduct an experiment, gather and analyze data, present research findings, and prepare a written project report.

### 3. Social/Behavioral/Administrative Sciences

**PHAR 611: *Pharmacy and the Healthcare System***

This course will introduce the organization, financing, and delivery of health care services in the United States and discuss the challenges that the changing health care system will have for patients, pharmacists, and society. The course will also cover the policy-making process and current prescription drug policies needed to modify and influence policies that promote safe, effective, and accessible drug therapy and provide patient-centered pharmacy care.

**PHAR 612: *Professional Communications***

Students will be exposed to a variety of pharmacy practice environments, with emphasis on oral and written communication, patient interviewing, and problem solving.

**PHAR 813: *Pharmacy Law & Ethics***

This class will introduce students to the scope and authority of programs which relate to the legal and ethical practice of pharmacy. This course will also provide students with an understanding of regulatory agencies and how pharmacy practically and ethically interacts with them.

**PHAR 814: *Biostatistics and Pharmacoepidemiology***

This is an introductory course in biostatistics and pharmacoepidemiology. Course topics will include descriptive summary statistics (mean, median, and SD); techniques for testing hypotheses (z- and t-tests, chi-square tests, non-parametric methods, ANOVA, linear regression); and sampling; experimental design; risk assessment; outcomes in large populations, and post-marketing surveillance.

**PHAR 815: *Principles of Management and Pharmacoeconomics***

This course presents coverage of management theory and practice. It focuses on the roles, skills, and functions of management, including attention to managerial responsibility for effective achievement of objectives. This course will also cover the principles utilized to manage drug therapy for patient populations to produce effective clinical, economic, and humanistic outcomes.

### 4. Clinical Sciences

**PHAR 641: *Self Care I***

Self-Care I is the first integrated clinical course that exposes the student to the appropriateness of patient interviewing, physical assessment and product selection of over-the-counter (OTC) medications. This course is interactive and designed to introduce a systematic approach for evaluating a patient's self care needs.

**PHAR 642: *Self Care II***

Self-Care II is the second integrated clinical course that exposes the student to the appropriateness of patient interviewing, physical assessment and product selection of over-the-counter (OTC) medications and complementary alternative medication (CAM) therapy. This course is interactive and designed to continue the systematic approach for evaluating a patient's self care needs.

**PHAR 743: *Drug Literature Evaluation, Study Design, and Drug Information***

This course will expose students to the principles of study design, data collection, and evaluation. Students will be required to do critical appraisals of primary literature and submit both written and verbal evaluations. The course will also provide an orientation to clinical references and experience in literature retrieval, analysis, and dissemination of drug information.

**PHAR 844: *Special Populations and Medication Safety***

This course will address the principles of geriatric and pediatric pharmacotherapy, medication use during pregnancy, and dosage calculations and adjustments in patients with renal impairment and other special clinical conditions. The course will also address the causes of medication errors and strategies for preventing or minimizing therapeutic misadventures.

## **5. Integrated Sciences**

The basic principles of pathophysiology, medicinal chemistry, pharmacology, and pharmacotherapy will be covered as appropriate in each of the following integrated courses:

**PHAR 571: *Neuropsychiatric and Endocrine Disorders***

This course will focus on integrating pathophysiologic mechanisms with the pharmacotherapeutic interventions used in the management of neuropsychiatric and endocrine disorders including but not limited to multiple sclerosis, epilepsy, Parkinson's disease, headache disorders, Alzheimer's disease, schizophrenia, depression, bipolar disorders, anxiety disorders, and sleep disorders, diabetes, thyroid disorders, Cushing's syndrome, and Addison's disease.

**PHAR 752: *Cardiovascular and Renal Disorders***

This course will focus on integrating pathophysiologic mechanisms with the pharmacotherapeutic interventions used in the management of various cardiovascular, renal, and endocrine disorders including but not limited to hypertension, heart failure, ischemic heart disease, acute coronary syndromes, arrhythmias, venous thromboembolism, stroke, hyperlipidemia, peripheral arterial disease, acute and chronic renal failure, glomerulonephritis, electrolyte disorders, and acid-base disorders.

**PHAR 853: *GI, GU, and Pulmonary Disorders***

This course will focus on integrating pathophysiologic mechanisms with the pharmacotherapeutic interventions used in the management of GI, GU, Pulmonary, and EENT disorders including but not limited to gastroesophageal reflux, peptic ulcer, inflammatory bowel disorders, nausea and vomiting, diarrhea and constipation, irritable bowel syndrome, alcoholic liver disease, pancreatitis, hepatitis, endometriosis, menopause, erectile dysfunction, benign prostatic hyperplasia, urinary incontinence, asthma, chronic obstructive lung disease.

**PHAR 854: *Gynecologic and Dermatologic Disorders***

This course will focus on integrating pathophysiologic mechanisms with the pharmacotherapeutic interventions used in the management of dermatological disorders including but not limited to osteoporosis, osteomalacia, rheumatoid arthritis, osteoarthritis, gout, acne, psoriasis, atopic dermatitis, glaucoma, and allergic rhinitis and gynecologic issues including pregnancy, contraception, menstrual-related disorders, endometriosis, and hormone replacement therapy.

**PHAR 855: *Microbiology and Infectious Diseases***

This course will cover the pathophysiology and treatment of bacterial, viral, fungal, and parasitic infections, as well as the principles of antimicrobial regimen selection and antimicrobial prophylaxis.

**PHAR 856: Hematology/Oncology**

This course will focus on integrating pathophysiologic mechanisms with the pharmacotherapeutic interventions used in the management of hematologic and oncologic disorders including but not limited to anemias, coagulation disorders, sickle cell disease, breast cancer, lung cancer, colorectal cancer, prostate cancer, lymphomas, ovarian cancer, acute and chronic leukemias, and melanoma.

## 6. Introductory Course

**PHAR 661: Introduction to Pharmacy**

This introductory course will review the history of pharmacy, pharmacy dispensing, and the principles of pharmacotherapy.

## 7. Introductory Pharmacy Practice Experiences (PHAR 662,763, 764, 865, and 866)

The Introductory Pharmacy Practice Experiences (IPPE I-V) will be based in community, institutional, long-term care, and primary care settings. Each IPPE will consist of a minimum of 60 hours per semester and include, but not be limited to, the following supervised activities:

- processing and dispensing new and refill medication orders
- conducting patient interviews to obtain pertinent patient information
- creating patient profiles
- responding to drug information inquiries
- interacting with other health care professionals
- participating in public health educational programs
- interpreting and evaluating patient information
- triaging and assessing the need for patient referral
- identifying patient-specific factors that affect health and pharmacotherapy
- assessing patient health literacy and compliance
- performing calculations required to compound, dispense, and administer medications
- administering medications
- providing point-of-care and patient-centered services
- conducting physical assessments
- preparing and compounding extemporaneous preparations and sterile products
- communicating with patients and health care providers
- interacting with pharmacy technicians in the delivery of pharmacy services
- documenting interventions in patient records
- presenting patient cases
- billing third parties for pharmacy services

## 8. Advanced Pharmacy Practice Experiences (PHAR 971 – 976)

The required Advanced Pharmacy Practice Experiences (APPE I-VI) will be based in community pharmacy, institutional pharmacy, acute care general medicine, and ambulatory care settings. Elective

APPE's will be offered in oncology, critical care, nuclear pharmacy, and other specialized pharmacy care settings. Each APPE is 240 hours (40 hours/week X 6 weeks) in duration and will include, but not be limited to, the following activities:

- all of the above IPPE activities
- identifying and reporting medication errors and adverse drug reactions
- managing the drug regimen through monitoring and assessing patient information
- providing pharmacist-delivered patient care
- providing patient education
- educating the public and health care professionals on the treatment of medical conditions, wellness, dietary supplements, durable medical equipment, and medical and drug devices
- retrieving, evaluating, managing, and using clinical and scientific publications in the decision-making process
- accessing, evaluating, and applying information to promote optimal health care
- ensuring continuity of pharmaceutical care among health care settings
- participating in discussions and assignments regarding compliance with accreditation, legal, regulatory/legislative, and safety requirement, the drug approval process, and health care policy matters that affect pharmacy
- working with the technology used in pharmacy practice
- managing systems for storage, preparation, dispensing, and safety of medications and help supervise technical personnel involved in such processes
- performing prospective and retrospective outcomes analyses to support formulary recommendations and therapeutic guideline development
- creating a business plan to support a patient care service
- administering medications where practical and legal

### ***Professional Competencies and Qualities***

#### **1. Provide evidence-based, patient-centered care that :**

- is integral among and collaborative with physicians and other health care professionals;
- includes designing, implementing, monitoring, evaluating, and adjusting patient-specific pharmacy care plans;
- provides drug information to patients, their families, and other involved health care providers;
- adheres to legal, ethical, social, economic, and professional standards and guidelines;
- continues to evolve as new information, products, and services that impact therapeutic outcomes emerge.

#### **2. Manage and use health care system resources to:**

- promote health;
- provide, assess, and coordinate safe, accurate, and time-sensitive medication distribution; and
- improve therapeutic outcomes of medication use.

**3. Actively engage in public health by:**

- promoting health improvement;
- enhancing wellness; and
- developing disease prevention programs.

**Professional Qualities**

The California Northstate College of Pharmacy is committed to preparing Doctor of Pharmacy graduates who:

- are skilled practitioners
- improve the well being and quality of life of the patients they serve
- provide compassionate care
- embrace the role of ongoing scholarship to advance the scope of pharmacy practice
- advocate changing and expanding patient-centered pharmacy services throughout the health care system
- engage in life-long learning

***Expected Educational Outcomes***

1. Appropriately prepare and dispense prescribed medications as part of the patient's care plan.
2. Accurately prepare sterile dosage forms and enteral nutrition products.
3. Accurately compound extemporaneous pharmaceutical products.
4. Formulate sound, evidence-based, individualized pharmacy care plans.
5. Design drug dosage regimens and select proper dosage forms based on patient-specific or population-based pharmacokinetic and pharmacodynamic data.

6. Select specific drug products based on bioequivalence, pharmaceutical and therapeutic equivalence.
7. Adjust pharmacotherapeutic plans based on pharmacogenomic variations in drug response, pharmacokinetic and pharmacodynamic properties, and adverse drug effects.
8. Evaluate a patient's basic disease process and response to drug therapy.
9. Improve therapeutic outcomes and minimize adverse drug events by recommending appropriate adjustments or changes in pharmacotherapeutic regimens.
10. Implement strategies for improving medication adherence.
11. Communicate effectively with patients, their caregivers, clinicians, and other health care professionals in providing pharmacotherapy counseling, consultation, and education.
12. Function collaboratively and effectively as a member of the inter-professional health care team.
13. Display professional attitudes, values, and behaviors in the delivery of pharmaceutical care.
14. Develop population-specific, evidence-based disease management programs.
15. Formulate and manage strategies for promoting health, wellness, and disease prevention to resolve public health problems.
16. Guide and assist patients in identifying, and accessing local health care resources.
17. Guide and assist patients in assessing and optimizing pharmaceutical services and utilizing their health insurance prescription plan effectively.
18. Develop a pharmacy operational plan that includes personnel management, required physical and technical resources, medication distribution safety procedures, and appropriate control systems.
19. Develop a business plan that supports the implementation and provision of medication therapy management services.
20. Actively engage in culturally sensitive community services that help advance the art of pharmacy.

## ***Learning Resources***

### **Library Facilities**

The California Northstate College of Pharmacy Learning Resource Center is available for students, faculty, staff, preceptors, as well as local pharmacists. This program includes 8000 square feet of space devoted to the following resources:

- Library Facility and Collection
- Library Computer System
- CNCP Electronic Library
- Computer Lab
- Tutoring Center
- Classroom Resources
- CNCP Academic Alert System
- Interlibrary Loan Program
- Career Resource Center

### Facility

The library facility is a significant part of the CNCP Learning Resources Center. It houses the library collection and provides space for individual and group study. It is open seven days a week. The hours of operation when the school is not in session, including holidays and spring break, will vary. The regular hours of operation when the school is in session are as follows:

Days	Hours
Monday to Thursday	8am to 9pm
Friday	8am to 5 pm

### Staff

The California Northstate College of Pharmacy's Learning Resource Center is managed and operated by a combination of a full time health sciences librarian and a part-time librarian assistant.

The pharmacy librarian will provide training and consultation to students and faculty on how to access good information and efficiently use electronic resources. The pharmacy librarian holds an academic appointment on the faculty and participates in all faculty functions and meetings.

An Information technology specialist works with the pharmacy librarian to update, maintain, and operate electronic systems in the resource center.

### Library Resource Center Programs

The Library Resource Center provides both students and faculty with support as well as sufficient research references. The following programs are offered to educate students and faculty on the availability of resources and the process of their uses:

- **Students Resource Center Orientation Session:** At the beginning of each semester, a Resource Center Orientation session is scheduled to accommodate all interested students. The attendance is mandatory for all first semester students and optional for other students. During this orientation, the students will be introduced to the learning resources available as well as to policies and procedures relevant to their usage.
- **Faculty Resource Center Orientation Training:** When new faculty members are hired, they will go

through Faculty Resource Center Training. It is important that all faculty members have in-depth knowledge and understanding of the Resource Center programs and resources, so that they can appropriately direct students. As new programs are instituted at the Resource Center, all faculty members will be appropriately educated to its function and operation. Faculty will be encouraged to give student assignments that need to be completed in the Learning Resource Center so that they will be comfortable with accessing information from a variety of resources.

- **Tutoring Center:** The tutoring center is supervised by Student Affairs. Students requiring assistance can sign up for tutoring. The tutoring is offered free of charge and is provided by student and faculty. Faculty may refer students from their classes to the tutoring center for additional help. The tutoring center will also facilitate the convening of groups of students who wish to study together.

### **CNCP Electronic Learning Resources**

CNCP Resource Center maintains an Electronic Learning Resources System. Its purpose is to provide library and learning resources to students, faculty, and staff, and serve as an entry point for all users to meet their academic and research needs.

### **Library Computer System**

A designated area of the learning resource center is dedicated as a computer lab. The computers in the lab are available to students, where they can access the CNCP electronic resources as well as CNCP electronic library materials. Additionally, the lab provides students with general PC software, access to the Internet, and the ability to print desired materials.

### **Library Collection**

The library subscribes to approximately 1,000 scholarly electronic journals.

### **Interlibrary Loan Program**

With the large number of colleges and universities in the Sacramento valley, CNCP is developing affiliation agreements with the libraries at other institutions in order to facilitate interlibrary loans. Please see the pharmacy librarian for details.

## ***Registration Policies and Procedures***

Registration for courses will occur on line on the date (s) specified by the College. All admission contingencies must be fulfilled before the student can register for courses.

Tuition and fees are due on or before the registration date for each semester.

Students will not be able to register for classes until all required immunizations, a cleared background check, and any other institutional requirements are received by the Registrar. Students who do not comply with these requirements may be charged a late registration fee of \$50.00.

## ***Tuition and Fees***

All tuition, fees, expenses, and policies listed in this publication are effective fall session 2009 and are subject to change without notice by California Northstate College of Pharmacy. For further details regarding tuition, fees, charges, and expenses, and related matters, please review the Student Enrollment Agreement.

### **Doctor of Pharmacy – Tuition, Fees, and Expenses**

<b>Required Tuition &amp; Fees (First Year)<sup>a</sup></b>	<b>Amount</b>
Application Fee (non-refundable)	\$75
Tuition <sup>b, c</sup>	\$37,500
Student Health Insurance Fee (estimated, optional, non-refundable if selected)	\$1,817
Student Association Fee (non-refundable after orientation)	\$125
Orientation Fee (non-refundable after orientation)	\$25
Student Tuition Recovery Fund (STRF) (California law, estimated, non-refundable) <sup>d</sup>	\$35
Books & Supplies (estimated)	\$2,000
<b>Total Estimated Tuition &amp; Fee Cost Per Year<sup>a</sup></b>	<b>\$41,502</b>
<b>Additional and Estimated Fees &amp; Expenses</b>	
Late Registration Fee	\$50
Remedial Course (per credit)	\$1,275

<sup>a</sup> Tuition and fees may increase on an annual basis. This program is designed to allow for a student to graduate after successfully completing four (4) years of coursework consisting of 142 semester credit hours while attending the College on a full-time basis. All fees are therefore charged on an annual basis, and tuition is \$18,750.00 per semester with no proration for part-time study.

<sup>b</sup> Tuition is \$18,750.00 per semester with no proration for part-time study.

<sup>c</sup> First year tuition includes a \$1,000.00 non-refundable Enrollment Confirmation Fee.

<sup>d</sup> Current California law provides that regulations governing a Student Tuition Recovery

Fund (STRF) including the requirements for filing a claim will be adopted by January 1, 2011. This state imposed assessment on student tuition was in the amount of \$35.00 the last time it was assessed. The College will inform the student of developments in this area as they occur.

The estimated total charges for all four years of the entire educational program are \$175,000.00. This estimate assumes a 3% to 5% annual increase in tuition and fees. This estimate does not bind the College to the estimated amounts of tuition and fees described herein.

### **Payment Due Dates and Options**

All tuition and fees listed above are due in full in accord with the following schedule:

#### **First Year Students – Fall Semester**

No later than 14 days after seat offer	\$1,000.00 non-refundable enrollment confirmation fee
No later than July 1, or following Monday if July 1 falls on Saturday or Sunday	\$5,000.00 seat commitment fee
No later than August 1, or following Monday if August 1 falls on Saturday or Sunday	\$12,900.00 balance of fall tuition and fees, plus student health insurance fee if chosen

#### **Second, Third, and Fourth Year Students – Fall Semester**

No later than August 1, or following Monday if August 1 falls on Saturday or Sunday	\$18,875.00 fall tuition and student association fee, plus student health insurance fee if chosen
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#### **First, Second, Third, and Fourth Year Students – Spring Semester**

No later than January 2, or following Monday if January 2 falls on Saturday or Sunday, or following Tuesday if January 2 falls on Monday	\$18,750.00 spring tuition
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As an alternative to payment in cash, the student may (1) provide satisfactory written creditor approved loan documentation to the College, or (2) apply for one of the installment payment plans offered by the College, either of which the College may within its complete discretion accept as an alternative to cash payment for the above tuition and fees, excluding the enrollment confirmation fee and the student health fee. If either of these options is chosen by the student, the student must make the appropriate arrangements with the College no later than thirty (30) days before the applicable due date. Failure to make full payment, or alternative loan or installment payment arrangements, by the due dates will subject the defaulting incoming student to forfeiture of the student's seat and the defaulting returning student to dismissal or interest at the then current rate under the College's direct pay installment program, which is presently 12% per year.

### **Student's Right to Cancel**

Incoming students have the right to cancel their enrollment until midnight of the first class day after the first class session attended, or midnight of the eighth calendar day after signing the Student Enrollment Agreement, whichever is later. Cancellation shall occur when the student gives written notice of cancellation to the Registrar.

If a student cancels enrollment, the College will refund the amount of tuition that the student paid less the \$1,000 non-refundable Enrollment Confirmation Fee within forty five (45) days after the Notice of Cancellation is received by the Registrar. The student health insurance fee in the estimated amount of \$1,817.00 will not be refunded unless the health plan provides a refund.

### **Student's Right to Withdraw**

After the expiration of the time to cancel enrollment, a student has the right to withdraw from the College at any time. Withdrawal shall occur when the student gives written notice of withdrawal to the Registrar.

A withdrawing student who has completed 60% or less of a semester will be eligible for a pro rata refund of tuition for that semester less the non-refundable Enrollment Confirmation Fee of \$1,000 within forty five (45) days after the Notice of Withdrawal is received. There will be no refund of the non-refundable fees described above. After completing more than 60% of the semester there will be no refund of tuition.

### **Financial Aid and Loan Obligations**

Information and resources for obtaining grants, scholarships, and applying for private student loans is available on our web site. Because California Northstate College of Pharmacy has yet to receive full accreditation, CNCP students are not yet eligible for certain federal and state financial aid programs. However, the CNCP staff is actively involved in identifying and evaluating various student financial assistance resources.

If a student has received federal student financial aid funds, the cancelling or withdrawing student is entitled to a refund of moneys not paid from federal student financial aid program funds only.

If a student obtains a loan to pay for an educational program, then any refund will be sent to the lender or to the loan guarantee agency, up to the amount of the loan plus interest. The student will have the responsibility to repay the full amount of the loan plus interest, less the amount of any refund paid to the lender. If there is a refund amount remaining after payment to the lender, it will be paid to the student as described above. If the student owes money after the refund, then the student will need to make arrangements for payment of the amount remaining owed.

If a student has obtained a loan guaranteed by the federal or state government and the student defaults on the loan, both of the following may occur: (1) the federal or state government or a loan guarantee agency may take action against the student, including applying any income tax refund to which the person is entitled to reduce the balance owed on the loan; (2) the student may not be eligible for any

other federal student financial aid at another institution or other government assistance until the loan is repaid.

### **Transferability of Credits and Credentials Earned at Our Institution**

The transferability of credits earned at California Northstate College of Pharmacy is at the complete discretion of an institution to which a student may seek to transfer. Acceptance of the degree and diploma earned in the doctor of pharmacy program is also at the complete discretion of the institution to which a student may seek to transfer. If the credits, degree, or diploma earned at this institution are not accepted at the institution to which a student seeks to transfer, the student may be required to repeat some or all of the student's CNCP coursework at that institution. For this reason the incoming student should make certain that attendance at this institution will meet the student's educational goals. This may include contacting an institution to which the student may seek to transfer after attending California Northstate College of Pharmacy to determine if credits, degree, and diploma will transfer.

## ***Academic Policies and Procedures***

### **Graduation Requirements**

- Completion of a minimum of 144 semester credit hours credits
- Completion of all courses required in the professional pharmacy curriculum, including 5 credits of professional electives.
- Completion of all non-professional curriculum graduation requirements.
- Not on academic probation a cumulative GPA of 2.0 or above.
- Have a zero balance on tuition and fees.

### **Attendance**

Regular class attendance is expected of all students. The college recognizes that circumstances may cause a student to miss an occasional class. The student is expected to make up the work missed. What constitutes an acceptable rate of class attendance is a matter between students and their instructors, although the college expects instructors to maintain reasonable standards. If a student misses more than 20% of any class he/she will need to meet with the assigned academic advisor to discuss the situation. The advisor may refer the student to tutoring or if too much time is missed, the advisor in discussions with the faculty member may suggest that the student repeat the course. Each faculty member will establish an absentee penalty policy for his or her course and publish the policy in the course syllabus.

### **Leaves of Absence and Withdrawal**

Students enrolled at CNCP who leave in the middle of a semester and plan to re-enroll must either request a leave of absence or officially withdraw. A leave of absence is approved for a specific period of time, usually no more than a year, and the institution agrees to permit the student to return to the College without formally reapplying for admission to the College. The student will be required to return to the College at the beginning of the semester in which the leave was granted. A student who officially withdraws from the college is entitled to apply for readmission. The admissions committee will review the request and will render its decision.

Leave of Absence and Withdrawal forms can be obtained at the Registrar's Office. The completed form must be submitted to the registrar. The registrar will notify the Assistant Dean of the student's intention and schedule an appointment for an exit interview. Students will not be granted a leave of absence or be official withdrawal until the exit interview has been completed.

### **Academic Achievement**

A grade equal to or greater than a C is considered satisfactory performance (passing) for completion of a course. In order to progress from one semester to the next, students must pass all courses with at least a grade of C and maintain a minimum cumulative grade point average (GPA) of 2.0.

### **Grading**

The breakdown of grades is as follows:

90 to 100% = A = 4.0;

80 to 89% = B = 3.0;

70 to 79% = C = 2.0;

60 to 69% = D = 1.0;

Below 60% = F = 0.0.

### **Academic Progression Policy**

A single grade of D received in any one academic semester must be remediated immediately prior to the beginning of the following semester as described below. A student who receives a final grade of one (1) F or two (2) or more D's in a single academic semester, or fails to successfully remediate a D will be placed on academic probation; those courses not successfully completed must be repeated the next time the courses are offered. A student who receives a final grade of F in two (2) or more courses in any single academic semester will be placed on academic suspension.

### **Remediation**

A grade of D in a course during a single academic semester indicates a lack of understanding of the fundamental concepts of the course material necessary for progression. A single grade of D in any course during a single academic semester must be remediated within twenty-eight (28) days of the end of the semester in which the D was received. Remediation will consist of taking a comprehensive remedial examination that covers the material presented during the duration of the course. Preparation for the remedial examination is the sole responsibility of the student, and may consist of, but is not limited to, self-study, tutoring, and/or meetings with the course instructor(s) as the student and instructor(s) feel necessary for the student to gain fundamental understanding of the course material. Satisfactory mastery of the material will be decided by the course coordinator/director/instructor(s), but

generally will be a score of at least 70 percent on the comprehensive remedial examination. A grade of C will be reported to the Registrar for the course for which the remedial comprehensive examination was satisfactorily completed. The grade of C earned as a result of passing the remedial examination will be used in the calculation of the student's cumulative GPA although the C will be identified as being remediated. If the student does not perform satisfactorily on the comprehensive remedial examination, resulting in the original D grade remaining on the transcript and being used in the calculation of the student's GPA, the student must repeat the course the next time the course is offered. The student will also be placed on academic probation and must not progress to any course that requires the unsuccessfully completed course as a pre-requisite. The student must successfully pass the course the next time it is offered to be eligible for removal from academic probation. Failure to pass a repeated course may result in dismissal from the program, which will be reviewed by the Professional and Academic Standards Committee on a case-by-case basis.

The student will be responsible for paying any additional tuition and fees attributable to repeating courses. Repeating a failed course may require the student to take five years to complete the program, in which case the student will be responsible for paying tuition and fees for the extra year required to satisfactorily complete the program. Students will not be allowed more than five years to complete the program; therefore, a second incident of final grades of one (1) or more F's, or two (2) or more D's will result in dismissal from the program.

### **Milestone Exam Remediation**

An examination, referred to as the Milestone Exam (which is based on the material presented during the year preceding the date of the exam), will be administered yearly. An overall score of 60% or better is considered a passing score for this exam. Students will be informed of their overall performance on this examination including the score earned for each section of the examination. Students who fail the Milestone Exam (less than 60% overall) must remediate those sections they did not pass (score of less than 60% in a particular section).

An Academic Alert will be issued to those students who fail the Milestone Exam for each failed section. Upon receipt of the Academic Alert, it will be the responsibility of the student to complete the following steps: (1) meet with the Associate Dean for Academic Affairs and Research to discuss the Milestone Exam and review their academic progress; (2) meet with the course coordinators/instructors whose sections were failed to devise a remediation plan (subject to approval by the Professional and Academic Standards Committee); and (3) complete the remediation plan to ensure that the student has a basic understanding of the tested material. The remediation plan must be completed prior to the beginning of the following semester. Course coordinators/instructors will notify the Associate Dean for Academic Affairs and Research in writing that remediation of the failed sections of the Milestone Exam have been successfully completed. Failure to successfully complete remediation will require the student to take a one year leave of absence, at which time the student must retake and pass the Milestone Exam before being allowed to continue in the program.

### **Probation**

A student will be placed on academic probation if the student : 1) earns two (2) or more D's or a single (1) F in any single academic semester; 2) fails to successfully remediate a D grade; or 3) has a cumulative grade point average of less than 2.0. The student will be eligible for removal from academic probation

by passing the course or courses in which the student received an F or unremediated D's the next time the course or courses are offered and by maintaining a cumulative grade point average of at least 2.0. The student may progress to any course that does not require the unsuccessfully completed course(s) as a pre-requisite. Failure to progress from probation may result in dismissal from the program, which will be reviewed by the Professional and Academic Standards Committee on a case-by-case basis.

The student will be responsible for paying any additional tuition and fees attributable to a delay in taking courses with pre-requisites as the result of probation. Such a delay may require the student to take five years to complete the program, in which case the student will be responsible for paying tuition and fees for the extra year required to satisfactorily complete the program.

### **Academic Suspension**

A student who receives two (2) or more F's during a single academic semester will be placed on academic suspension and may not take any courses until the next time the failed courses are offered. The student must also apply for and be approved for a leave of absence. The student will be subject to potential dismissal from the program if the student does not successfully complete (with a grade of C or better) the failed courses the next time they are offered. Potential dismissal from the program will be reviewed by the Professional and Academic Standards Committee on a case-by-case basis.

### **Dismissal**

A student will be dismissed from California Northstate College of Pharmacy if any of the following conditions exist and the Professional and Academic Standards Committee determines that dismissal is warranted:

Failing to meet the requirements for academic progression as stated above for **Remediation**, **Probation**, or **Academic Suspension**;

Failing to meet any terms of **Remediation**, **Probation**, or **Academic Suspension**;

Conduct unbecoming a student pharmacist, following due process, as described in the Student Handbook;

Foregoing an academic semester without obtaining an approved leave of absence.

### **Requirements for Internship and Licensure**

Acceptance to California Northstate College of Pharmacy does not guarantee California licensure.

#### **Internship Registration Requirements**

Candidates must be presently enrolled in a school or college of pharmacy recognized by the board or accredited by the Accreditation Council for Pharmacy Education (ACPE), or a graduate of a school of pharmacy recognized by the board or accredited by the Accreditation Council for Pharmacy Education (ACPE) who also has an application pending to take the California pharmacist licensure examinations.

Complete registration instructions can be downloaded from the California State Board of Pharmacy website at [http://www.pharmacy.ca.gov/forms/intern\\_app\\_pkt.pdf](http://www.pharmacy.ca.gov/forms/intern_app_pkt.pdf).

### **Licensure Requirements**

To be licensed as a pharmacist in California, you must:

- Be at least 18 years of age.
- Have obtained a B.S. or a Doctor of Pharmacy degree from a college of pharmacy recognized by the board.
- Have completed 1,500 intern experience hours or verified licensure as a pharmacist in another state for at least one year.
- Have taken and passed the North American Pharmacist Licensure Examination (NAPLEX) and the California Pharmacist Jurisprudence Examination (CPJE)

The registration instructions, requirements, and application form for licensure as a pharmacist in California application may be obtained and downloaded at California State Board of Pharmacy website at [http://www.pharmacy.ca.gov/forms/rph\\_app\\_pkt2.pdf](http://www.pharmacy.ca.gov/forms/rph_app_pkt2.pdf).

### **NAPLEX**

To take the NAPLEX and/or MPJE, **candidates must meet the eligibility requirements of the board of pharmacy from which they are seeking licensure.** The board will determine your eligibility to take the examinations in accordance with the jurisdiction's requirements. If the board determines that you are eligible to take the examinations, it will notify NABP of your eligibility.

Questions concerning eligibility requirements may be addressed by contacting the board of pharmacy in the jurisdiction from which licensure is being sought.

Registration instructions, requirements, and application the form can be obtained and downloaded from the National Association of Boards of Pharmacy website at <http://www.nabp.net/>

### **ADMINISTRATION**

Cheung, Alvin, Pharm.D, MPH	President
Fong, Norman, B.Pharm.	Vice President of Operations
Hawkins, David, Pharm.D.	Dean and Professor
Martin, John, Ph.D.	Associate Dean for Academic Affairs and Research
Porter, Cyndi, M.B.A, M.S.	Assistant Dean for Student Affairs and Admissions

Miller, Kenneth, Ed.D.	Director of Institutional Effectiveness & Accountability
Carroll, Dave, Pharm.D.	Director of Experiential Education
Lackey, Grant, Pharm.D.	Associate Director of Experiential Education
Pather, Indiran, D.Pharm	Chair - Department of Pharmaceutical & Biomedical Sciences
Brazill, Bradley, Pharm.D.	Chair -Department of Clinical & Administrative Sciences
Minor, Scott, MS	Director of Library Resources

## ***DEPARTMENTS***

### ***Clinical and Administrative Sciences***

The faculty in the Department of Clinical and Administrative Sciences has expertise and research interest in a wide range of areas including internal medicine, cardiology, psychiatry, oncology, infectious disease, clinical pharmacokinetics, health care outcomes, public health, health care delivery systems, pharmacy management, and health policy.

<b><i>Faculty*:</i></b>	Brazill, Bradley, Pharm.D.	Chair/ Associate Professor
	Carroll, Dave, Pharm.D.	Associate Professor
	Lackey, Grant, Pharm.D.	Associate Professor
	Lloy, Maureen, Pharm.D.	Associate Professor
	Miller, Kenneth, Ph.D.	Associate Professor
	Skahl, John, Pharm.D.	Associate Professor
	Bhutada, Nilesh, Ph.D.	Assistant Professor
	Frausto, Sonya, Pharm.D., M.A.	Assistant Professor
	Minor, Scott, M.S.	Assistant Professor
	Ofstad, William, Pharm.D.	Assistant Professor

### ***Pharmaceutical and Biomedical Sciences***

The faculty in the Department of Pharmaceutical and Biomedical Sciences has expertise in pharmacology, toxicology, medicinal chemistry, pharmaceuticals, physiology, cellular and molecular

biology, biotechnology, immunology and microbiology. Primary areas of research include molecular pharmacology, angiogenesis, and pharmacogenomics.

<b>Faculty*:</b>	Pather, Indiran, D.Pharm	Chair and Professor
	Martin, John, Ph.D.	Professor/Associate Dean
	Feng, Xiaodong, Pharm.D., Ph.D.	Associate Professor
	Coyne, Leanne, Ph.D.	Assistant Professor
	Khansari, Parto, Ph.D.	Assistant Professor
	Kolli, Chandra, Ph.D.	Assistant Professor
	Woldemariam, Tibebe, Pharm.D., Ph.D.	Assistant Professor

\* Information about faculty research interest, projects and qualifications can be found on our web site at [www.californiacollegeofpharmacy.org](http://www.californiacollegeofpharmacy.org).

## Staff

Lisa Erck	Student Affairs and Admissions Coordinator
Patti Erck	Executive Assistant to Operations/Student Finance Coordinator
Sara Fox, BA	Administrative Assistant, Experiential Education
Janette Kragen	Executive Assistant to the Dean
Gail Kubat	Admissions Advisor
Chrissy Hebel	Student Affairs Assistant Registrar
Karen Sproates	Administrative Assistant to the Faculty
Malania Sukiasyan	Library Assistant
Vinuthna Vattikonda, MSE	Computer System Analyst and IT Administrator



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