The following is a general list of elective course descriptions. An elective may not be offered in a particular semester even if it is listed here. Please check the current course schedule for your campus to determine which electives will be offered during any given semester.

Tuition and fees for electives can vary depending on the following conditions. Please check the charges that appear on ISIS for your registration:

- If an elective has a PHA 5000 level designation, this course is included in the annualized tuition and fees for the Doctor of Pharmacy degree.

- If an elective has a non-PHA prefix at the 5000 level, this course is **NOT** included in the annualized tuition and fees. The charge for this non-PHA elective course is the graduate tuition per credit hour. This amount is added to the annualized tuition and fees for that semester.

- If an elective has a PHA prefix at the 6000 level, this course is a graduate course for the Doctor of Philosophy degree program and is **NOT** included in the annualized tuition and fees for the Doctor of Pharmacy degree program. The charge for this PHA 6000 level elective course is the graduate tuition per credit hour. This amount is added to the annualized tuition and fees for that semester.

- If an elective is selected that is offered through graduate distance education programs for the Masters of Pharmaceutical Science degree (Forensic Science and Regulatory Affairs programs), this course is **NOT** included in annualized tuition and fees for the Doctor of Pharmacy degree. These two masters distance education degree programs are “off-book” with charges designed to support their operation and delivery. These course fees are added to the annualized tuition and fees for that semester.

Note: The annualized tuition and fees arrangement is approved by the Board of Trustees and the President’s Office in conjunction with the Dean’s Office. The above stipulations are established by University regulation regarding annualized tuition and fees for professional degree programs.
Elective Course Descriptions

Fall Semester

PHA 5009 Global Health Seminar  
(Fall Semester)  
1 credit

The purpose of this course is to expose professional and graduate students in the College of Pharmacy, in collaboration with other Health Science Center students, to global health issues that affect people, animals and the environment. This elective course addresses global climate change and public health; AIDS/HIV; tuberculosis; malaria; emergency response; sustainable agriculture; hunger and poverty; animal control; rabies; traditional (folk) medicine; global vaccine initiatives; public health; water quality and public health and wildlife conservation.

PHA 5172 Biotechnology and Drug Development  
(Fall Semester)  
2 credits

This course will focus on the product development of biological products and drugs in the biopharma industry, especially differences between them. Health care environment related to drug development is addressed. Biotechnology sessions will include many research methodologies, such as, molecular biology, monoclonal antibodies, recombinant proteins, molecular engineering, gene therapy, and economic issues. Lectures for the biopharma industry involve the challenges regarding discovery research, development, formulations and manufacturing, regulatory, government, marketing, costs, and business issues in the creation of new products for patient care, both biologicals and drugs. The course will require students to assimilate the information from pharmacology and pharmacotherapy and be able to write out and verbally present biotech and industry issues. The class will be an interactive format with student questions / discussion being fostered in class, along with student product presentation by each student. (Dr. Song)

PHA 5922C Thinking Skills  
(Fall Semester)  
2 credits

This course meets for one two-hour session each week. All materials are available on ELS. The course has two main parts, critical thinking and creative thinking. Students must purchase one textbook with required readings. Assignments, which are posted on ELS, must be completed for each session. Class sessions require assignments to be turned in. In class activities include student presentations, discussion of assignments, and readings. There are several debates during the semester. Students work in a group of usually 4-5 students for many assignments. Grades are based on attendance and participation in class, a weekly journal, and a term project. The course has an enrollment minimum of at least 6 students per distance education campus site and a cap of 18 students on the Gainesville campus site. (Dr. Michael Schwartz)
**PHA 5890 Introduction to Women’s Health**  
*(Fall Semester)*  
This two-credit course covers topics of importance in women’s health, and examines issues that affect women of all ages, from the early reproductive years to the late postmenopausal years. The subject matter encompasses a variety of topics, including contraception, infertility, health in pregnancy, menopausal health, mental health, and eating disorders. The role of the pharmacist in the optimal provision of drug therapy and preventative health is emphasized. (Dr. Dr. Karen Whalen)

**PHA 5607 Critical Care**  
*(Fall Semester)*  
The Critical Care Elective is a two hour course designed to introduce the efficacy, safety, and comparative value of drug therapy in the management of critically ill patients. Knowledge of physiology, pharmacology, toxicology, and therapeutic management is applied to disease states and conditions specific to critically ill patients.  
(Drs. Johnson, Feild, Ferreira)

**PHA 5933 Clinical Applications of Personalized Medicine**  
*(Fall Semester)*  
This elective is a case-based, 2-credit hour fully online course that focuses on how and when to use pharmacogenetic and genomic data in patient care. Students will use their own genetic data or a de-identified data set to solve cases based on patients or clinical scenarios that have been encountered in the UF Health Personalized Medicine Program. Pharmacists in this clinical program work with UF Health physicians and other providers to integrate pharmacogenomics data into everyday clinical practice in the areas of cardiology, oncology, family medicine, gastroenterology, and infectious diseases.  
(Dr. Weitzel)

**ENT 6008 Entrepreneurial Opportunities**  
*(Fall & Spring—first 8 weeks)*  
Not included in annualized tuition and fees. Graduate tuition will be charged extra.  
This course is designed to provide students from all disciplines an introduction to entrepreneurship. The entrepreneurial approach is defined as pursuit of opportunity without regard to initial resources. This view of management requires planning, risk control, leadership, and team building. This is a seven-week module based course. All lectures are pre-taped and converted to streaming video. Students use ELearning. This is a modular course. (Dr. Linda D. Clarke, Dept. of Finance and Real Estate, Warrington College of Business Administration)

**PHA 6425 Drug Biotransformation and Molecular Mechanisms of Toxicity**  
*(Fall Semester)*  
Enrollment LIMITED to FIVE students across four campuses  
Not included in annualized tuition and fees. Graduate tuition will be charged extra.  
This course covers enzymology and mechanisms of drug biotransformation pathways. Discussion will focus on examples of drugs and xenobiotics that exhibit toxicity related to biotransformation. (Note: This course will be taken by graduate students in the
Spring Semester: First Eight Weeks

3PD

PHA 5737 Drugs and Society  
2 credits  
(Spring Semester – first 8 weeks)  
This course focuses on the issues surrounding illegal drug use as well as social drug use in society. Students are expected to understand the mechanism of action, adverse drug events, and social adverse outcomes that result from illegal drug use. The pharmacist’s role in drug education and drug abuse prevention is emphasized. The legal enforcement of drug laws is also reviewed. The class has limited enrollment from the 1PD, 2PD, and 3PD class students who express an interest. (Professor Paul Doering, Dr. Sven Normann, Dr. Carol Motycka)

PHA 5554 Clinical Toxicology I – Pharmaceuticals  
2 credits  
(Spring Semester – first 8 weeks)  
This course will provide a review of the field of toxicology focusing on toxicity produced from pharmaceutical agents. The role of the pharmacist in the evaluation and management of poisoned patients will be emphasized. Topics such as toxidromes, gastrointestinal decontamination, and antidotes will be discussed. (Dr. Dawn Sollee/Coordinator \ Dr. Sven Normann/Facilitator)

PHA 5842 Basic Principles of Pain Management and Communication in Palliative Medicine  
2 credits  
(Spring Semester – first 8 weeks)  
The purpose of the course is to prepare the student to develop rational drug therapy plans for patients with pain and other symptoms commonly occurring at the end-of-life, as well as develop plans for monitoring pharmacotherapy in these patients. As patients live longer with chronic debilitating illness, pharmacists in all settings will be faced with providing pharmaceutical care in this population (Angela Huskey, PharmD, CPE and Jennifer Strickland, PharmD, BCPS). All lectures are pre-taped and converted to streaming video. Students use WebCT to view weekly lecture content. Grades are comprised from 2 live discussion sessions and one final exam.  (Dr. Shelley Spradley)
PHA 5933 (temp.) Oncology and Hematology
(Spring Semester – first 8 weeks) 2 credits
The purpose of this course is to develop in the student an awareness and respect for the uniqueness of cancer patients and their management in the oncology outpatient clinic or inpatient setting. This course is intended to expand the pharmacy student’s knowledge of hematology and oncology disease states and supportive care for cancer patients. The student will develop confidence in dealing with cancer/chemotherapy patients and be able to monitor and provide recommendations for supportive care during chemotherapy. The course will feature both didactic lecture periods and interactive learning sessions. (Drs. Louzon and LaPlant)

ENT 6008 Entrepreneurial Opportunities 2 credits
(Fall & Spring—first 8 weeks)
Not included in annualized tuition and fees. Graduate tuition will be charged extra.
This course is designed to provide students from all disciplines an introduction to entrepreneurship. The entrepreneurial approach is defined as pursuit of opportunity without regard to initial resources. This view of management requires planning, risk control, leadership, and team building. This is a seven-week module based course. All lectures are pre-taped and converted to streaming video. Students use WebCT. This is a modular course. (Arnold A. Heggestad, Holloway Professor of Finance and Entrepreneurship, College of Business)

HUN 6939 Enteral Nutrition 2 credits
(Spring Semester – first 8 weeks)
Not included in annualized tuition and fees. Graduate tuition will be charged extra.
The course goals are to 1. Familiarize student with the basic metabolic and physiological principles of nutrition support using oral feeding of table food and tube feeding of nutrition formulas, 2. Familiarize student with the practical aspects of choosing a commercial enteral formula and administering it to a patient, 3. Develop student’s ability to use the Internet as a learning tool for continuous professional development in the field of enteral nutrition support, and to enhance student’s skills in presenting nutrition information to professional colleagues and to the general public. Course will be completely online using E-Learning. There are weekly written projects and no exams. (Dr. Peggy R. Borum)
**Spring Semester: Last Eight Weeks**  

**4PD**

**PHA 5177C Advanced Pharmaceutical Compounding**  
*2 credits*  
*(Spring Semester – last 8 weeks)*

The objectives of this course are to reinforce concepts of various pharmaceutical compounding techniques from didactic coursework to real world problem-based settings. The class will be divided into two-sections: the lecture portion will focus on newly emerging concepts and, the lab portion will focus on contemporary compounded prescriptions. The student will be assigned a therapeutically relevant problem. In collaboration with the instructors, the student will research the disease state, and the prescribed drug therapy. Students will then design and compound a dosage form to treat the disease state.

**PHA 5555 Clinical Toxicology II – Non-pharmaceuticals**  
*2 credits*  
*(Spring Semester – last 8 weeks)*  
*(PHA 5554 not a pre-req!)*

This course will cover the adverse consequences of non-drug (plants, envenomations, chemical, etc.) related poisonings and present information on prevention and management. (Dr. Dawn Sollee/Coordinator \ Dr. Sven Normann/Facilitator)

**PHA 5618 Geriatric Pharmacy**  
*2 credits*  
*(Spring Semester – last 8 weeks)*

This course focuses on the sociological and therapeutic issues that influence drug therapy decision making as well drug therapy monitoring for patients in the elderly years. (Dr. Foley/Dr. Vogel Anderson)

**PHA 5841 Human Immunodeficiency Virus: Challenges and Treatments**  
*2 credits*  
*(Spring Semester – last 8 weeks)*

This course is intended to expand the pharmacy student’s knowledge of HIV treatment received in the pharmacotherapy series. The students will be able to recommend and monitor treatments for patients who are naïve to antiretroviral therapy as well as those with treatment experience. Additionally, the student will develop confidence in the treatment recommendations for those individuals with occupational, non-occupational and perinatal exposure and timelines of such therapeutic interventions. These skills will be developed by viewing taped lectures and reading primary literature guidelines in conjunction with on-campus patient care discussions. (Dr. Huesgen)

**HUN 6939 Parenteral Nutrition**  
*2 credits*  
*(Spring Semester – last 8 weeks)*

Not included in annualized tuition and fees. Graduate tuition will be charged extra.

The goals of the course are to 1. Familiarize student with the basic metabolic and physiological principles of parenteral nutrition support; 2. Familiarize student with the practical aspects of writing parenteral nutrition orders and administering it in both the hospital and home settings; and 3. Develop student’s ability to use the Internet as a learning tool for continuous professional development in the field of parenteral nutrition support; 4. Enhance student’s skills in presenting nutrition information to professional colleagues and to the general public. Course will be completely online using E-Learning. There are weekly written projects and no exams. (Dr. Peggy R. Borum)
**Summer Semester 2016**

**RESEARCH**  
*1PD and 2PDs*

You may always supplement your summer enrollment (to meet the four credit hour minimum required for aid, if applicable to you) with a *RESEARCH ELECTIVE*!

RESEARCH is NOT OFF BOOK…

There is **no** tuition or fee liability attached.

The time commitment is as follows for the Summer C term:

<table>
<thead>
<tr>
<th>CREDIT</th>
<th>HOURS IN LAB/WEEK</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
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</tbody>
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Hours do not necessarily need to be completed in this weekly fashion. We understand that certain projects cannot adhere to such rigid timelines. Requirements can be met in any combination that suits your instructor, as long as you complete the total hours.

1 credit - 3 hours x 16 weeks = 48 hours  
2 credits - 6 hours x 16 weeks = 96 hours  
3 credits - 9 hours x 16 weeks = 144 hours

The best place to start is with either your faculty advisor, mentor, or favorite professor, all of whom will be pleased to guide you, based on your interests and skills.
Once you establish a ‘plan,’ while copying the instructor, email Mr. McLeod (mcleod@cop.ufl.edu), with the following:

- Your name, UFID and campus
- Instructor’s Name & Department Affiliation
- Number of credit hours

These sections are departmentally controlled, and we will register you.

Allowable Summer Electives From Other Colleges of Pharmacy

The on-line course from Mercer (Community Pharmacy Ownership), and the University of Utah School on Alcoholism and Other Drug Dependencies (registration closed for summer 2015) have been pre-approved by the College of Pharmacy Curriculum Committee as eligible courses toward the fulfillment of the required 8 hours of electives.

NOTE: Electives are not calculated in your overall GPA.

Taking the Mercer course during the academic year would require approval by Dean McKenzie as a Course Overload. Simply send him (mckenzie@cop.ufl.edu) an email with your request. 3PDs and 4PDs on rotations would similarly require overload approval, at all times of the year.

Please submit 2 sealed transcripts to the Office for Student Affairs. Be sure to include your UFID. Credit will be posted to your transcript as PHA0000 within 3-4 weeks.