**B.S./Pharm.D. Biomedical Sciences/Doctor of Pharmacy**

This program intends for students to complete a B.S. in Biomedical Sciences (College of Arts and Sciences) and a Doctor of Pharmacy (USF Health College of Pharmacy) over the span of seven (7) years. Students completing this program will be well trained to perform as skilled intermediaries to effectively communicate with patients, their health providers, insurance companies, and pharmaceutical companies. Completion of this program requires students to complete the first year (36 credits) of the Pharm.D. during their senior year of their B.S. in Biomedical Sciences. This accelerated program shares 8 credits between already existing degrees/concentrations:

* B.S. in Biomedical Sciences
* Pharm.D. in Pharmacy

**Target Students and Expected Outcomes**

The accelerated Bachelor’s to Pharm.D. program is a collaborative effort between the College of Arts and Sciences, the Honors College, and USF Health’s College of Pharmacy (USF COP). This program is an attractive and viable career path for students in the Department of Chemistry’s degree program that results in professional training in pharmacy. Students who complete this program receive the necessary training to become advanced pharmacist clinicians that will collaborate with other health professionals.

**Description and Requirements**

For admission to the program a student must:

* be admitted to the Honors College as a first year student (at least a 1360 CR+M SAT or 29 ACT and 3.8 H.S. GPA as calculated by USF);
* hold US citizenship or permanent resident status.

**Undergraduate Degree Requirements for the B.S. in Biomedical Sciences (BMS)**

All BMS students will complete FLENT and Summer Enrollment requirements as well as graduation requirements listed in the catalog. Specifically, according to the BOG Articulation Regulation 6A-10.030; earn a minimum of 48 semester hours of upper-level work (courses numbered 3000 and above), therefore, BMS students will take 21 credits of additional 3000+ level coursework in addition to their required major and exit courses listed below. Of these 21 credits, up to 8 credits will be shared with the Pharm.D. program. **The entire undergraduate program will total no more than 120 credits.**

**Foundations of Knowledge and Learning Coursework – 36 credit hours:**

* English Composition (CAEC), 6 credits
* Fine Arts (CAFA), 3 credits
* Human and Cultural Diversity in a Global Context (CAGC), 3 credits
* Humanities (CAHU), 6 credits
* Mathematics (CAMA), 6 credits or Mathematics and Quantitative Reasoning (CAQR), 6 credits
* Natural Sciences (Life Science) (CANL), 3 credits
* Natural Sciences (Physical Science) (CANP), 3 credits
* Social and Behavioral Sciences (CASB), 6 credits
  + PSY 2012 or SYG 2000
  + ECO 2013 or ECO 2023

**Capstone Experience – 6 credit hours**

* Capstone (CPST), 3 credits
* Writing Intensive (WRIN), 3 credits

**Tier 1:**

**Required Biology Courses (8 credit hours):**

* BSC 2010 Cellular Processes
* BSC 2010L Cellular Processes Laboratory
* BSC 2011 Biodiversity
* BSC 2011L Biodiversity Laboratory

**Required Chemistry Courses (18 credit hours):**

* CHM 2045 General Chemistry I
* CHM 2045L General Chemistry I Laboratory
* CHM 2046 General Chemistry II
* CHM 2046L General Chemistry II Laboratory
* CHM 2210 Organic Chemistry I
* CHM 2210L Organic Chemistry I Laboratory
* CHM 2211 Organic Chemistry II
* CHM 2211L Organic Chemistry II Laboratory

**Required Mathematics Courses (6 credit hours):**

* MAC 2241 Life Sciences Calculus I\*
* MAC 2242 Life Sciences Calculus II\* **or** STA 2023 Introductory Statistics\*\*
  + \*MAC 2311 and MAC 2312 are also acceptable for the major.
  + \*MAC 2281 and MAC 2282 are also acceptable for the major
  + \*\*Required by the College of Pharmacy (USF COP)

**Required Physics Courses (8 credit hours):\***

* PHY 2053 General Physics I
* PHY 2053L General Physics I Laboratory
* PHY 2054 General Physics II
* PHY 2054L General Physics II Laboratory
  + \*Students may substitute Human Anatomy or Physiology I and II (BSC 2093C & 2094C or BSC 2085, 2085L and BSC 2086, 2086L) for Physics I and II for the degree; however, the College of Pharmacy (USF COP) requires 8 credit hours of BSC2093C and BSC2094C and 4 credit hours of General Physics with corresponding lab.

**Tier 2:**

**Required Biomedical Courses (7-8 credit hours):**

* BCH 3053 General Biochemistry
* MCB 3020 and MCB 3020L General Microbiology and Laboratory [Required by USF COP]
  + **or**choose one lecture: PCB 3063 or PCB 3023 **and** one lab: PCB 3063L or PCB 3023L or BCH 3023L

**Minimum of 14 additional Biomedical credits to include:**

* Upper-level Biology course (choose one) [USF COP requires PCB 3063]
* Upper-level Chemistry course (choose one)
* Upper-level Chemistry or Biology course (choose one) [USF COP requires PCB 3023 or MCB3410]
* Upper-level Chemistry or Biology laboratory course (choose one)
* Additional Biomedical elective(s) (choose)

**Chemistry Residency Requirement**: Seven (7) credits of Chemistry coursework--upper and/or lower level--must be completed at USF.

**Upper-Level Residency Requirement:** 12 credit hours of major-applicable, upper-level natural science courses must be completed at USF

No duplicate credit allowed.

**Shared B.S./Pharm.D. Requirements**

According to the BOG Articulation Regulation 6A-10.030; earn a minimum of 48 semester hours of upper-level work (courses numbered 3000 and above), therefore, the B.S. in Biomedical Sciences students will take up to 21 credits of additional 3000+ level coursework in addition to their required major and exit courses listed below. Out of these 21 credits, up to 8 credits will be shared with the Pharm.D. program. The shared courses are listed below:

* PHA 6451 Clinical Biochemistry (3)
* PHA 6792C Drug Information / Literature Evaluation (2)
* PHA 6755 Medical Microbiology & Immunology (3)

**Timeline and benchmarks:**

Eligible students may follow the *7-Year BS/PharmD Track* during their first year of undergraduate enrollment. By a specified date at the end of the first year, students must submit a declaration of intent to the Honors College to formally join the program. The declaration of intent is not an official application. The official application must be submitted through PharmCAS after the second year of undergraduate study.

If at the end of the spring semester of Year 1, students have attained an overall and science grade point of average (GPA) of 3.50, they may proceed onto Year 2 of the *7-Year Track*.

**Honors College**

Students pursuing the 7-Year BS/Pharm.D. must also complete Honors College requirements and co-curricular program benchmarks which may be found at: http://honors.usf.edu/ap\_pharm.html

**Curricular Program Requirements (Years 1-3)**

* Grade Point Average (GPA); GPAs are not rounded.
  + USF overall and science GPA of 3.5 or higher at the completion of the spring semester of Year 1;
  + USF overall and science GPA 3.5 or higher at completion of Year 2;
  + USF overall and science GPA of 3.5 or higher at completion of Year 3;
  + If students transfer in a GPA from dual enrollment or transient coursework completed at another institution, the overall and science GPAs from all coursework completed at USF must also be a 3.5 or higher.
* Prerequisite Coursework: the courses listed above for the B.S. in Biomedical Sciences must be completed for admission to the USF COP in addition to any other General Education Core/Foundations of Knowledge and Learning and Upper Division requirements for the student’s major. Curricular revision is an ongoing process at USF COP, so the prerequisite courses listed may change.

**First and Second Years**

* Courses and credits as designated for freshman and sophomore years

**Between Second and Third Year: USF COP Application Process**

* Students who meet all specified benchmarks must officially apply to the USF COP during the summer between their second and third undergraduate years.

* Students must adhere to the following timeline to submit their applications through the Pharmacy College Application Service (PharmCAS)
  + E-submit PharmCAS application (including transcripts and letters of recommendation) by the early decision deadline. **The early decision deadline typically falls on the first Tuesday in September**. Applying through the regular decision application process is not an option.
  + Two letters of recommendation must be submitted to PharmCAS. One of the two letters must be from a science professor. Do not submit letters of recommendation directly to the USF COP.
  + PharmCAS applications may be submitted beginning in July of each year. Since PharmCAS reviewers need four to six (4-6) weeks to verify applications prior to forwarding information to medical schools, we strongly encourage students to submit their applications **by the end of July.**
  + PCAT: For students entering the program a 65th percentile composite PCAT score is preferred, with no individual sub-score lower than 40 is permitted. Students with lower scores that may have other strong academic indicators providing evidence of success will be reviewed.
    - The PCAT must be taken prior to the early decision deadline. Students should visit PCATweb.info for PCAT testing dates.
    - PCAT scores older than 3 years will NOT be accepted.
  + Students must e-submit the supplementary application and corresponding non-refundable application fee ($30) to the USF COP by the early decision deadline (presently the first Tuesday in September).
  + Applicants who have met all GPA, PCAT, and curricular and co-curricular requirements, and have submitted required application materials by the deadlines will receive an invitation for a formal interview by the USF COP.
    - Invited students will participate in the early decision interview process.
    - Successful completion of the interview at the beginning of the third year is a requirement for acceptance into the USF COP.

**Conferring of BS degree (fourth year; first professional year of pharmacy)**

Students must successfully complete all requirements of the Doctor of Pharmacy curriculum to graduate. Successful completion of the academic program of study contained within the first professional pharmacy year is required for the completion of the bachelor’s degree in the accelerated (3+4) program and to continue in the pharmacy program. Curricular revision is an ongoing process at USF COP, so the courses listed may change. The program of study for the 2019-2020 cohort at USF COP follows:

**Graduate Degree Requirements for Accelerated Doctor of Pharmacy (Pharm.D.)**

**Program Requirements**

Note: the Pharm.D. program includes as an admission requirement the passing of all sections of the Pharmacy College Admission Test (PCAT).

**Total Minimum Program Hours: 130 hours**

The courses required for the Doctor of Pharmacy (Pharm.D.) are listed below. Please check with the program for other program requirements.

|  |  |  |
| --- | --- | --- |
|  | **Year 1 (PY1)** |  |
| PHA 6114C | Drug Delivery Systems I (with lab) | 3 |
| PHA 6562 | Physiologic Basis of Disease | 4 |
| PHA 6451 | Clinical Biochemistry\*\* | 3 |
| PHA 6804C | Pharmaceutical Calculations | 2 |
| PHA 6792C | Drug Information / Literature Evaluation\*\* | 2 |
| PHA 6575 | Introduction to Principles of Drug Action | 2 |
| PHA 6870C | Pharmaceutical Skills I | 2 |
| PHA 6577 | Biochemical & Molecular Principles of Drug Action\*\* | 5 |
| PHA 6115C | Drug Delivery Systems II (with lab) | 3 |
| PHA 6755 | Medical Immunology and Microbiology\*\* | 3 |
| PHA 6898 | Foundations in Public Health | 3 |
| PHA 6871 | Pharmaceutical Skills II | 3 |
| PHA 6940 | Introductory Pharmacy Practice Experience (IPPE) | 1 |
|  |  |  |
|  | **Year 2 (PY2)** |  |
| PHA 6782C | Pharmacotherapeutics I | 5 |
| PHA 6795 | Research Methods & Biostatistics | 3 |
| PHA 6124 | Principles of Pharmacokinetics / Pharmacodynamics I | 3 |
| PHA 6261 | Healthcare Administration & Economics | 3 |
| PHA 6872C | Pharmaceutical Skills III | 3 |
| PHA 6945 | Introductory Pharmacy Practice Experience (IPPE) | 1 |
| PHA 6783C | Pharmacotherapeutics II | 5 |
| PHA 6243 | Medical Informatics & Technology | 2 |
| PHA 6129 | Clinical Pharmacokinetics / Pharmacodynamics II | 3 |
| PHA 6618C | Principles of Geriatric Pharmacotherapy | 2 |
| PHA 6270 | Healthcare & Medication Safety | 2 |
| PHA 6873C | Pharmaceutical Skills IV | 3 |
| PHA 6946 | Introductory Pharmacy Practice Experience (IPPE) | 1 |
|  |  |  |
|  | **Year 3 (PY3)** |  |
| PHA 6784C | Pharmacotherapeutics III | 5 |
| PHA 6740 | Grant Writing and Clinical Research | 2 |
| PHA 6130C | Translational Pharmacogenomics - Principles and Clinical Applications | 3 |
|  | Elective Course | 2/3 |
| PHA 6874C | Pharmaceutical Skills V | 3 |
| PHA 6947 | Introductory Pharmacy Practice Experience (IPPE) | 1 |
| PHA 6787C | Pharmacotherapeutics IV | 5 |
| PHA 6233C | Jurisprudence | 2 |
| PHA 6760 | Non-Prescription & Herbal Therapies | 3 |
|  | Elective Course | 2/3 |
| PHA 6875C | Pharmaceutical Skills VI | 3 |
| PHA 6948 | Introductory Pharmacy Practice Experience (IPPE) | 1 |
|  | Capstone (on-line) | 0 |
|  |  |  |
|  | **Year 4 (PY4)** |  |
| PHA 7626 | Advanced Pharmacy Practice Experiences (APPE) Health System | 6 |
| PHA 7692 | APPE Community | 6 |
| PHA 7627 | APPE Ambulatory Care | 6 |
| PHA 7694 | APPE Adult Medicine | 6 |
| PHA 7644 | APPE Geriatrics | 6 |
| PHA 7684 | APPE Elective (x2) | 12 |
| PHA 7928C | Professional Forum\* | 2 |

\*Longitudinal course Fall & Spring

\*\*Shared courses between B.S. Biomedical Sciences and Pharm.D.