Full-Time Faculty Position Request Form 2017 - 2018

This form is used by departments and programs to request new or unfilled faculty positions relying on Program Review and/or other justifications. Submit one form for each position requested. For multiple positions, indicate priority of request (e.g., Subject Position 1, Subject Position 2, etc.). Forms are due to Division Deans by September 16, 2016.

Position Requested: Chemistry Faculty

Contact Person: Michael Ansell

Discipline/Division: Chemistry **Starting Term: Fall** ■ **Spring** ☐

This form requires the use Enrollment Management Tool data, which can be found at the following link: http://www.laspositascollege.edu/researchandplanning/FacultyPrioritization.php (If you have any questions about the data, please contact Rajinder Samra 925-424-1027 or rsamra@laspositascollege.edu) or your Dean. The data will be verified by the Dean. Do not attach data spreadsheets.

Check if position is a: Replacement ☐ **or New** ■

If replacement: What is the position code? (see Dean)

Name of the person being replaced:

Length of time position(s) unfilled:

CRITERIA

1. **Number of Full-Time Faculty currently in Discipline:** 3
   If requesting more than one position, add 1 to this number for each subsequent position requested.

2. **Percentage of FTEF taught by full-time faculty as load for the past six semesters, and projected for one year assuming a successful hire. (Use data from link above. If requesting more than one position, see Rajinder Samra to determine the projected numbers.)**

Fall 2013	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Projected Fall 2017	Projected Spring 2018
39.8	37.3	35.2	38.6	47.2	52.8	60.4	64.0

3. **a. For Instructional Faculty: WSCH per FTEF for the past six semesters (use data from link above):**

Fall 2013	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016
438.9	430.7	424.3	429.5	427.5	438.2

b. For non-instructional faculty (librarians and counselors): Student/Faculty ratio for the past six semesters, and projected for one year assuming a successful hire. Divide headcount by number of full-time faculty. For example: 8000 students divided by 3 full-time faculty. 1:2666

(If requesting more than one position, see Rajinder Samra to determine the projected numbers).

Fall 2012	Spring 2013	Fall 2013	Spring 2014	Fall 2014	Spring 2015	Projected Fall 2017	Projected Spring 2018

4. **Program Characteristics:**

a. List the courses taught and/or work performed in the discipline.
(Be brief and specific. Use your Program Review to complete this section.)

The Chemistry Program covers a wide range of curricula including introductory courses, general chemistry, organic chemistry, and chemistry for allied health majors. Each course has an intensive lab component with unique activities every week. Majors courses in General Chemistry and Organic Chemistry meet twice a week for lab for two semesters. Each laboratory activity requires specialized knowledge, techniques, and often equipment that needs regular maintenance, trouble-shooting and curriculum development. It falls to the full time faculty to acquire new equipment as a replacement or as technology changes; to organize training for the new equipment; and then to develop and incorporate new activities to fully utilize this equipment. Full time faculty must also attend meetings to advocate for new equipment, new training, and new facilities as our college continues to grow. Chemistry is often called the "central science" because it is so integral to other areas of science and technology such as biology, medicine, advanced materials, manufacturing, geology, environmental science, physics, art, nutrition, nursing, enology, and engineering. Full time faculty in Chemistry can insure that our department not only grows, but it grows in an intelligent way that serves all of these other disciplines and keeps pace with 21st century advances.

b. Total number of primary sections as identified in data taught in the discipline in each of the last six semesters (use data from link above):

Fall 2013	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016
13	14	15	14	16	15

c. Student enrollments in the classes taught or number of students served in each of the last six semesters(use data from link above):

Fall 2013	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016
80	84	87	81	92	90

d. List special characteristics of the discipline such as: (Be brief and specific. Use your Program Review to complete this section.)

- **Mandated class size limits due to state, contract, and accreditation standards.**
- **Facilities**
- **Number of courses out of the total number of courses in the discipline that meet General Education Requirements**
- **Number of courses out of the total number of courses offered that are required as part of an AA/AS degree, certificate or transfer**
- **Discipline provides basic skills courses**
- **Discipline provides mandated and specialized services to students**
- **Other**

-Chemistry laboratories are limited to 24 students per lab section for safety reasons, although we typically add 2-3 students to each section because of high demand and long wait lists. Introductory courses often have two lab sections combined for one lecture session.

-The Chemistry Program has 3 laboratories, 2 balance rooms, a large preparation room, and an instrumentation room along with shared lecture classrooms. Each teaching lab has about 100 lockers--each with a set of glassware for students. This constitutes a limit on class sizes. Lockers must often be shared, putting a limit on the types of projects students can undertake.

-All seven CHEM courses meet the Physical Science (with lab) GE requirement and all seven are requirements for degrees, certificates, and transfer.

-Chem 30A and 30B are part of the AA in Biological Sciences: Emphasis on Allied Health and are required for transfer in Dental Hygiene. Chem 30A is required for the AA in Viticulture and several other degrees. Chem 1A, 1B, 12A and 12B are required for AS in Chemistry and AA in Biology. The Program has two degrees - AS Chemistry and AA Chemical Education.

-Chem 31: Introductory Chemistry, prepares students for General Chemistry, especially if they did not receive this preparation in high school and is therefore a prerequisite for degree level courses.

5. **Describe how courses and/or services in this discipline impact other disciplines and programs. (Be brief and specific. Use your Program Review to complete this section.)**

Chemistry can have its strongest impact when collaborations are made with other disciplines like when biochemistry knowledge helps pre-nursing students understand physiology; when mathematics help students understand equilibrium and kinetics in General Chemistry; when Chemistry illuminates environmental science; or when science informs voter choices in the political arena at election time.

-General Chemistry (Chem 1A and 1B), and Organic Chemistry (12A and 12B) are critical courses for Chemistry, Biology, Chemical Engineering, BioMedical Engineering, Pre-Medical, Pre-Pharmacuitical, Pre-Dental, Pre-Veterinary, Nutrition, and other related majors. Chemistry 1A (and sometimes 1B) are required for other engineering, physics, and computer science majors. These classes are central to STEM Education.

-Chemistry for Allied Health Majors (30A and 30B) support Pre-Nursing, Pre-Dental Hygiene, Nutrition, Health, Physical and Occupational Therapy, Kinesiology, Viticulture, Enology, Paramedic/EMT, Fire Science, Environmental Science, Occupational Health and Safety (OSH) and other related programs.

Chemistry 31 is also an option for the AS degree in Computer Sciences, the AA in Environmental Studies and the AA in Liberal Studies.

6. **If this is the first full-time position in the discipline, discuss: (Be brief and specific. Use your Program Review to complete this section.)**

   b. **Justification for the position.**
   c. **Projected start-up costs for equipment, facilities, and support staff for the first three years.**
   d. **Projected enrollment growth for the next three years, starting with the first semester of the projected faculty hire.**

Not applicable.

7. **What are the impacts on students, the discipline and the college of NOT filling this faculty position? What are the programs/courses/services that have not been or cannot be offered due to the vacancy? (Be brief and specific. Use your Program Review to complete this section.)**

The LPC Chemistry Program will continue to offer the same courses--staffed instead with part-time faculty. There could potentially be a lower quality of instruction, safety, and faculty investment in the Chemistry Program.
-The primary concern is for lab safety and proper handling of hazardous chemical waste.
-It will be increasingly difficult for the Program to expand course offerings to meet demand; to update curriculum for rapidly changing science and technology; and to cover staffing during sabbatical and workload banking leaves.
-The Chemistry Program has not had a new full time faculty in 11 years. Fresh talent, enthusiasm and outside ideas are vitally important for growth of the Program and for Student Success. New courses such as "Chemistry and Society," "Environmental Chemistry," and "Wine Chemistry" might be developed.
-Current Full time faculty have focused on coordinating developing and updating curriculum for General and Organic Chemistry, while a new Full-time faculty member could focus on the Introductory courses.
-All of this depends on enough full-time faculty to develop new courses, to update curriculum, to keep up with administrative work, to maintain sophisticated instrumentation, and to maintain an outstanding level of teaching and learning.

8. **Any additional information that addresses justification of the position. If multiple positions are being requested, this is an opportunity to differentiate the justifications for additional positions.**

-The data presented above does not include the dramatic growth of our summer course offerings. In 2006, we only offered 3 summer sections, but in 2016, we offered 8 sections placing additional strain on our department resources such as faculty, equipment, and support staff.

The Chemistry Program has acquired excellent instrumentation through Measure B including Carbon and Hydrogen NMR, FT-Infrared Spectroscopy, GC-MS (Gas Chromatography-Mass Spectroscopy, AA (Atomic Absorption Spectroscopy), and Vernier Logger-Pro Interfaced sensors for temperature, UV-Visible Spectroscopy, radiation detection, pH measurements, etc. Each of these instruments requires a different expertise to operate, maintain, keep updated, develop curriculum for and, most importantly, teach! Full-time faculty are much more likely to spend the extra, unpaid hours learning, developing, and training others on these instruments. A fourth full-time faculty with experience using and teaching with each of these instruments would make the investments in instrumentation significantly more valuable.

Signatures:

Requestor Dean Vice President