2014-15 Proposal to Fill a Full-Time Faculty Position

1. Faculty position being proposed

Physics/Astronomy Instructor

2. Proposal Being Made by (List Name(s) and Title(s))

Luc Desmedt (FT faculty in physics and astronomy)

3. Summary description of the position

This position will address the increased and very urgent instructional needs of the physics and astronomy departments. These needs have been discussed in the 2013/2014 program review, and they relate to most urgent teaching assignments regarding the survey course (PHYS108), and especially the bio major transfer sequence (PHYS120/121) and the astronomy program (ASTRO101A/B). In addition, a strong need exists with regards to comprehensive assessments for all these course offerings, as well as for curriculum development.

4. Rationale for filling this position: include examples of how this position impacts students, program needs, and college goals

IMPACT ON STUDENTS

For many years, the departments of astronomy and physics combined have had to function with only one full-time faculty, despite demonstrated growth in both the astronomy and physics programs. Examples include: the additional sections of ASTRO101A, PHYS108 that have been added in recent years to satisfy the demand; and, the summer 2014 PHYS140 section that has been offered, for the first time in a decade, in the science/engineering transfer program - with no decline in demand for PHYS140 this Fall, and with increased numbers of waitlisted and non-waitlisted students for PHYS141 and PHYS142, as expected! To compound the staffing needs, it is anticipated that, in the next four years and due to reduced lab science class size imposed by the move into portable classroom spaces, more sections of all physics courses will need to be offered, and staffed. Finally, new and recent ideas to expand the physics/astronomy curriculum in new directions (a physics class specifically for health science related programs at Newark is under discussion, as well as an interplanetary physical science course), have to be stalled given the current staffing situation in the physics department.

PROGRAM NEEDS

The ratio of FT to PT staffing in the physics and astronomy departments has been at unjustifiably low levels for the last five years or so, at least if quality and consistency in instruction, in assessment, in course and program review, as well as in curriculum development is to be a priority at Ohlone College. In the present situation, the physics and astronomy departments together offer no less than 11 different courses per year, with a total of just over 20 sections (again, the number of sections will most likely have to increase due to imposed reductions in class size). Thus, only about 33 to 40% (!) of these sections are taught by full-time faculty under the present organization of the workloads. Whereas the astronomy program already has been taught exclusively by adjunct faculty for many years, during the past few academic years, the bio majors transfer sequence is now entirely taught by adjunct faculty as well. Furthermore, and thanks to the newly hired full-time engineering faculty member, the engineering program at Ohlone College is witnessing a revival, which comes with an obligation to offer more sections of the physics prerequisites – enrollment situations at the beginning of the semester clearly indicate a desire for increased offerings. However, no new sections in the science/engineering transfer sequence can and should be offered without adequate full-time staffing. Even here, only 75% of the offerings in the science/engineering transfer sequence can be taught by full-time faculty! This situation cannot continue to exist any longer without compromising the excellent reputation of the science programs at Ohlone College, of which physics and astronomy constitute important corner stones.
COLLEGE GOALS
College goals #1 (improvement of student learning and achievement) and #2 (support of the economic vitality of the community through educational programs and services that respond to identified employment needs) will be immediately and positively addressed by the hiring of a new full-time faculty in the physics/astronomy department.

As mentioned before, some of the general initiatives advocated by Ohlone College towards enhancing student success (college goal #1), include the implementation of new student learning environments such as embedded tutor assisted learning, and the requirement that program improvement objectives be integrated with data obtained from assessment of student learning. The physics and astronomy departments are cooperating towards rendering these initiatives meaningful. However, in the absence of sufficient full-time faculty, that is with the current, extremely low, one-to-five (!) FT/PT faculty ratio, it is virtually impossible to bring this work to a good end. Adjunct faculty, in view of their limited time on campus, can simply not be expected to work with, let alone mentor embedded tutors, or to engage in the development of assessment tools or the analysis of assessment data. The existing staffing situation, with only one full-time faculty member in the physics and astronomy departments, seriously jeopardizes meeting this college goal #1.

In addition, the hiring of a new faculty member signifies import of new expertise and perspective, both professional and pedagogical, that will directly influence the ways students learn and approach problems (college goal #1), integrate their knowledge in real-world situations, and discover career pathways (college goal #2). The aforementioned idea of developing physics curriculum oriented towards health sciences, or that of a physical science course in planetary science, constitute good examples of initiatives that require a faculty member in a position of continuity.

SUMMARY STATEMENT
In view of the fact that Ohlone is clearly committed to support and implement new learning environments for student success in physics, such as the embedded tutor based model, and enthusiastically and ambitiously looks forward to reach out to and train a new generation of students within the setting of a brand new science center, it remains an enigmatic decision not to have accorded, in the past few years, the absolute highest priority to the hiring of a full-time faculty in this department. My Dean and I resubmit our request for a full-time faculty position in the physics/astronomy departments with renewed insistence on the urgency of this hire.

5. Are there any externally imposed requirements such as a specialized program accreditation that would put this program in jeopardy if a full time position is not filled? If so, please explain.

No

6. Any other rationale to support the position proposal:

In the first place, see supporting data provided in the Dean’s statement. The data do not yet fully reflect the expected increase in need for calculus-based physics courses (PHYS140/141/142), related to the steady expansion of our engineering program. If this trend comes into full swing, it will even be necessary to hire a third full-time faculty member in the physics/engineering department. We cannot therefore postpone any longer the hiring of a first full-time faculty, lest our staffing will be completely inadequate for the foreseeable tasks ahead.

Secondly, I also need to mention and stress the fact that it has proven extremely difficult to find qualified adjunct faculty to teach the physics curriculum. My Dean and I have observed this somewhat appalling state of affairs during several hiring rounds over the past few years. In view of this, it should be clear that we cannot continue along the lines of the current one-to-five FT/PT ratio. Once more, there exists a real danger of diluting the quality of physics instruction and the physics program, if Ohlone College does not endeavor to immediately attract at least one new faculty member on a full-time basis, providing that instructor with the motivation to engage in new teaching methodologies and develop new teaching tools and contents.
The remaining questions to be completed by Deans

7. A statement by the Dean of the division housing this position, which includes data, evidence, and analysis.  

Physics has asked for a second FT position for the last three years and yet the program has grown, despite not having that position. We are coming to a point where it has been difficult to staff the sections we need to offer. Luc and I spent all summer trying to find adjuncts to teach in the fall. We interviewed a number of people before we were able to find a few people who were able to teach effectively. It remains to be seen whether we will even have them next semester since we have experienced tremendous turnover in adjuncts. This has occurred, in part, because the adjuncts we are able to find often do not work out very well and we have had to find new instructors. With a growing engineering department, it is essential that we be able to have quality, stable instruction in physics or it will impact the success and access of those students. While the FT:PT ratio is poor (41:59), the most important factor in this request is that it has and continues to be extremely difficult to find qualified adjuncts who can teach effectively. This cannot be stressed enough!
While Luc discusses the need in terms of Astronomy and Physics, I will say that we should not focus on the astronomy piece, as we have an adjunct that has been very effective in teaching those courses for quite some time. The need is clearly in Physics as we are not able to meet all the demand and will need to add sections to address it. For that reason, I will be only providing data analysis for Physics. These additions will no doubt help with our goal of growing FTES in the coming years.

DATA SUMMARY:

8. What is the department FTES?  

37.65, which represents an increase of 13% since FA2010

9. What is the ratio of full-time to part-time faculty in the department?  

41 (FT) 59 (PT)

10. What is the ratio of full-time faculty to department FTES?  

37

11. What is the current WSCH/FTEF in the department?  

478

12. What is the number of sections taught by full-time faculty and number taught by part-time faculty?  

3 (FT) 6 (PT) It should be noted that there are additional sections of astronomy and they are taught exclusively by an adjunct.

13. Does the position address an area of growth? If yes, include a three year trend line for FTES.  

Yes. FTES in FA10 was 33.32 and by FA14 it was 37.65. It would be higher if we could had additional staffing.