

FACULTY NEEDS ASSESSMENT APPLICATION

Name of Person Submitting Request:		Michael Lysak
Program or Service Area:		Physics/Astronomy/Engineering
Division:		Science
Date of Last Program Efficacy:		Spring 2008
What rating was given?		Continuation
# of FT faculty 1	# of Adjuncts 4-5	Faculty Load: 2.96 – 3.16
Position Requested:		One full-time Physics/Astronomy faculty
Strategic Initiatives Addressed:		Institutional Effectiveness and Resource Management; Student Success

1. Provide a rationale for your request.

Since the former Physics/Astronomy department chair retired at the end of Fall of 2002, this full-time faculty position has not been replaced, leaving the Physics/Astronomy department with only one full-time faculty. Correspondingly, in recent years, with the addition of evening sections of Physics/Astronomy classes, the course load has been rather significant (presently at about 2.96 FTEF), and, as a result, the department has needed to use several adjunct faculty. However, it is very difficult to find instructors who are well-qualified to teach Physics and/or Astronomy, and with such a small pool of adjuncts, the program has suffered. Occasionally, for lack of instructors and/or adjunct scheduling conflicts, classes needed to be cancelled, or the full time faculty needed to get special permission to take extra overload to cover all the courses that were offered. Furthermore, with only one full-time faculty, opportunity for innovation is quite limited, and continuity of instruction in the courses handled by adjuncts is sporadic, at best. An unstable workforce greatly increases the difficulty in providing quality, consistent service at the appropriate level of rigor.

2. Indicate how the content of the latest Program Efficacy Report and/or most current EIS data support this request. How is the request tied to program planning? (*Reference the page number(s) where the information can be found on Program Efficacy.*)

According to the EMP for Physics/Astronomy (pg. 57), some of the program goals were to explore the possibility of having the Life-Sciences and Physical Sciences sequences begin in the Spring as well as in the Fall, and to explore the possibility of offering Physics 101 as a hybrid course; further, one of the department's challenges was to enhance the Physics/Astronomy curriculum with more engineering-related offerings. Such goals and challenges cannot be adequately met with only one full-time faculty member. Supporting this, the Physics/Astronomy 2008 Program Efficacy document states (pg. 5) that "With only one full time faculty, our ability to offer many sections over many different time slots is limited"....further, (pg. 6), "....the department having only one full-time faculty has limited us to offering only Physics 150A/200 in the Fall, and Physics 150B/201 in the Spring". Also, this Efficacy report states (pg. 16) there is a significant projected growth rate predicted for jobs in Physics education, engineering, geo-related sciences, nursing, and physician's assistants, all of which would predict an increase in Physics enrollment beyond what we are presently experiencing due to the budget-related class cuts in our local four-year colleges and universities which have forced many students to look to

our community colleges for available classes. If the Physics/Astronomy department is to successfully plan for such enrollment increases, we will need more full-time faculty.

3. Provide updated or additional information you wish the committee to consider (*for example: regulatory information, compliance, alternative or ongoing funding sources, updated efficiency and/or student success data or planning etc.*)

As referenced in the Physics/Astronomy 2008 Program Efficacy document (pg. 14), the productivity of the Physics/Astronomy department has been greater than or equal to that of the college (Physics/Astronomy WSCH/Faculty Load ratio for 2011-2012 was approximately 591), and the department has been operating more efficiently and serving more students in spite of having only one full-time faculty since the end of Fall 2002. For 2011-2012, the Physics/Astronomy department's Success rate was 82%, and its Retention rate was 91%; these rates have, in fact, moderately increased over the years, up from the respective rates of 58% and 77% in 2006-2007, with average respective rates of 68% and 81% in the period 2006-2012. As student populations increase, the need for another full-time faculty will become important. In fact, in recent semesters, the waiting lists have exceeded 20 students for each of our Physics classes. Clearly, there is a need for the Physics/Astronomy department to offer more sections, and an additional full-time faculty will be important in filling that need. Further, with an additional full-time faculty, the Physics/Astronomy department will be able to expand its Engineering offerings, and strengthen its Engineering program, which is in keeping with the STEM programs and initiatives currently pursued by various departments at SBVC; presently, the Physics/Astronomy department offers only one Engineering course, in Statics. As an additional point of consideration, the last Program Review ranked the Physics/Astronomy department as #2 for Faculty Needs, and the Science Division has ranked this Faculty request as #1 out of four requests.

4. What are the consequences of not filling this position?

As stated in the above rationale for the request for full-time faculty, since Fall 2003 the Physics/Astronomy department has needed to use several adjunct faculty due to the relatively large course load (presently at about 2.96), with the present full-time faculty teaching overload. If the present full-time faculty member were not to teach an overload, this load value of 2.96 suggests that less than 33% of our courses would be taught by full time faculty, and more than 67% by adjunct faculty; this would not support quality instruction for our students, and it stifles successful attempts of program growth, development and expansion. It is very difficult to find qualified faculty to teach Physics and Astronomy, and the usual turnover associated with adjunct instructors versus the consistency afforded by full-time faculty negatively impacts enrollments, and, ultimately, productivity. Further, without additional full-time faculty, the Engineering program will not have an opportunity to expand and grow, and progress relative to the STEM initiatives will be negatively impacted.