CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA

ACADEMIC SENATE

ACADEMIC PROGRAMS COMMITTEE

REPORT TO

THE ACADEMIC SENATE

AP-002-190

New Self-Support Counterpart of Previously Approved State-Support Master of Science in Engineering

Academic Programs Committee	Date: xx/xx/2019
Executive Committee Received and Forwarded	Date: 10/16/2019
Academic Senate	Date: 10/23/2019 First Reading

BACKGROUND:
The College of Engineering seeks to partner with Northrop Grumman, an aerospace and defense contractor, to offer self-support versions of three Master's programs (MS in Engineering—Aerospace Engineering Emphasis, MS in Engineering—Materials Engineering Emphasis, and MS in Mechanical Engineering) to Northrop employees at their Palmdale facility. The programs would have the same curriculum as the state-support counterparts, but would be offered in Palmdale rather than on campus. The programs will have the same admissions requirements as the regular state-support programs offered on campus.

The programs will involve cohorts of at least 8 students entering each program in each year, once the self-support programs are fully up and running, with a goal of starting a small number of courses in January of 2020. The departments will offer courses at full scale for the first cohort in 2020-2021, and increase offerings to support two cohorts per program (as these are 2-year programs) at full scale in 2021-2022. Northrop is paying a flat rate with a guarantee of at least 8 students in each class, and will provide classroom facilities in Palmdale. Cal Poly will provide faculty, digital infrastructure (course registration, Blackboard, etc.), and back-end administration (degree progress monitoring, etc.). Faculty will be paid a flat rate per course, plus mileage, and will teach these courses as overloads, so that there will be no reduction in effort allocated to state-supported programs.

Northrop has emphasized that they want in-person classes, not distance learning. While a few classes may be taught by Northrop employees hired as lecturers by Cal Poly Pomona (evaluated and paid as any other instructor teaching graduate-level engineering courses through the College of the Extended University), Northrop seeks interaction and relationships with Cal Poly Pomona faculty.

RESOURCES CONSULTED:
- Associate Deans
- College of Engineering Dean's Office
- Dr. Vilapanur Ravi, Professor and Chair, Chemical and Materials Engineering
- Dr. Jonathan Puthoff, Assistant Professor, Chemical and Materials Engineering
- Dr. Ali Ahmadi, Professor and Chair, Aerospace Engineering
- Dr. Navid Nakhjiri, Assistant Professor, Aerospace Engineering
- Dr. Angela Shih, Professor and Chair, Mechanical Engineering
- Dr. Henry Xue, Professor and Associate Chair, Mechanical Engineering
- Dr. Reza Baghaei Lakeh, Assistant Professor, Mechanical Engineering
- Budget Committee of the Academic Senate
- Teresa Taylor, Director of Business Operations, College of the Extended University

DISCUSSION and RECOMMENDATION:
During consultation with relevant parties, the Academic Programs Committee considered a number of key issues:

1) Budget and Risks: The Budget Committee of the Academic Senate was consulted regarding the proposed program budget. The chief questions raised by the Budget Committee concerned low benefits rates, but because this is overload work, faculty only receive salary; their benefits are covered through their full-time work for the university. In consultation with engineering departments we learned that the proposed pay is comparable to that offered to engineering faculty in a similar program in Lancaster.

The flat rate for faculty work, and Northrop's commitments (both to help recruit students and to provide facilities) make this a low-risk program for the university. There is, of course, no guarantee that every prospective student will be qualified for admission, but Northrop's reputation makes it quite likely that their Palmdale facility will have many skilled engineers who are ready for graduate study.

The Committee also learned (in consultation by a committee member representing the College of Engineering) that the Dean of Engineering has no concerns, and the Chairs of the three departments involved in this proposal all expressed confidence in the sustainability of the program.

2) Curriculum and Academic Standards: The curriculum is identical to existing state-support programs. We have no concerns about academic standards, as the faculty will be primarily those teaching in the state-support program, and students will have to meet the same admissions standards. Any adjuncts hired from Northrop will have either a PhD or else a master's degree and relevant professional experience comparable to a PhD instructor in the field.

While the MS in Engineering may have to work on some issues with EO 1071 compliance in the future, the program is currently in good standing, and if modifications are needed for EO 1071 compliance, the self-support curriculum will be modified to match the state-support program.

3) Supplanting of State-Support Programs: This program will be offered at a remote location, for a very specific audience that might otherwise have difficulty accessing our on-campus programs (or any other engineering programs offered by public universities) due to Palmdale's location. Moreover, the faculty will be teaching as an overload, so that their efforts will not be diverted from state-support offerings.

4) Sustainability and Departmental Support: The Academic Programs Committee communicated with the Chairs of the 3 departments, the Associate Chair of one department (Mechanical Engineering), assistant professors from all 3 departments, and an Associate Professor from one department (Chemical and Materials Engineering), as well as the Dean of Engineering. All comments were supportive of the programs. We have no concerns about the programs faltering for lack of faculty buy-in.

The Academic Programs Committee also wishes to note that growing this relationship between Cal Poly Pomona and Northrop Grumman is likely to benefit the wider campus beyond the 3 departments offering these programs. Northrop recruits at our career fairs,

and hires both graduate and undergraduate students from a wide range of majors in many colleges besides Engineering (e.g. Science, Business). Committee members in other fields noted that they have professional relationships with various people at Northrop, and anything that strengthens ties with this employer of our graduates is likely to benefit the work of the university and the careers of our alumni.

Because of the low risks, the sound program design, the likely sustainability, and the broad support in Engineering, the Academic Programs Committee recommends approval of AP-002-190, New Self-Support Counterpart to Previously Approved State-Support Master of Science in Engineering

ATTACHMENTS
Budget sheets
Memo from proponents