

This template is to be used only by programs that have received specific written approval from the Provost's office to proceed with internal proposal development and review. The proposal template should be completed in full and submitted to the University Provost's Office [mailto: curriculumplanning@asu.edu]. It must undergo all internal university review and approval steps including those at the unit, college, and university levels. A program **may not** be implemented until the Provost's Office notifies the academic unit that the program may be offered.

College/School/Institute: College of Letters and Sciences
Department/Division/School:
Proposing Faculty Group (if applicable): Physics
If this is an official joint degree program? No, this is not a joint degree program

If "Yes" List all the additional college(s)/school(s)/institute(s) that will be involved in offering the degree program and providing the necessary resources. Note: All units offering this program must have collaborated in the proposal development and completed the appropriate unit and college/school approvals.

Degree type: BS-Bachelor of Science
 If other; provide degree type title and proposed abbreviation:
Name of degree program (major): Applied Physics
Are any concentrations to be established under this degree program? No, concentrations will not be established.
Is a program fee required? No, a program fee is not required.
What is the first catalog year available for students to select on the undergraduate application for this this program? 2016-17
Delivery method: On-campus only (ground courses and/or iCourses)
Note: Once students elect a campus or On-line option, students will not be able to move back and forth between the on-campus and the ASU Online options. Approval from the Office of the University Provost and Philip Regier (Executive Vice Provost and Dean) is required to offer programs through ASU Online.

Campus/Locations: indicate all locations where this program will be offered.
 Downtown Phoenix Polytechnic Tempe West Other:

Proposal Contact

Name: Maxim Sukharev **Title:** Associate Professor
Phone number: 480-727-1398 **Email:** maxim.sukharev@asu.edu

DEAN APPROVAL(S)

This proposal has been approved by all necessary unit and College/School levels of review. I recommend implementation of the proposed organizational change.

College/School/Division Dean name: Duane Roen
Signature Duane H. Roen **Date:** 6 / 18 / 2015
College/School/Division Dean name:
(if more than one college involved)
Signature _____ **Date:** / / 20

Note: An electronic signature, an email from the dean or dean's designee, or a PDF of the signed signature page is acceptable.

1. Purpose and Nature of Program

Provide a brief program description. Include the distinctive features of the program that make it unique.

The accelerating advances at the frontier between physics, engineering, and technology create a need for interdisciplinary training and research that is not readily accommodated by traditional single-focus programs. Bringing fundamental physics together with its immediate applications the proposed Bachelor of Science in applied physics will attract freshmen whose interests span new physical technologies in industry and engineering. The growing presence of Intel and other high-tech companies in the East Valley presents us with a unique opportunity to enhance interaction with industry. The proposed degree brings together the expertise of physics faculty in modeling of physical systems heavily relying on both modern numerical techniques and fundamental physics. The degree combines physics with computer science, and applied mathematics to tackle complex real-life problems in physics, material sciences, engineering, chemistry, and others. Understanding importance of hands-on experience the proposed degree offers a series of unique courses with interactive involvement of students in project-based environment.

2. Student Learning Outcomes and Assessment Methods

A. Knowledge, competencies, and skills

List the knowledge, competencies, and skills students should have when they graduate from the proposed degree program. (You can find examples of program Learning Outcomes at (<http://www.asu.edu/oue/assessment.html>)

The graduates will have a set of unique skills ranging from deep understanding of fundamental laws of physics through powerful knowledge of how modern computers operate to ability to combine both to solve real-life problems. Students successfully completing this program will possess an in-depth education in physics, mathematics, and computing along with valuable skills in complex problem-solving and team work.

B. Assessment

Describe the plan and methods to assess whether students have achieved the knowledge, competencies and skills identified in the Learning Outcomes. (You can find examples of assessment methods at (<http://www.asu.edu/oue/assessment.html>)

The final exams for all core courses will assess students' understanding and skills in mathematics and physics. Each student is required to complete a one-semester project research (PHY495) under direct guidance of physics faculty. This will assess student's ability to apply acquired knowledge to model real-life problems.

3. Academic Curriculum and Requirements

A. Major Map.

Attach a copy of the “proposed” major map for this degree program and each concentration(s) to be offered. Instructions on how to create a “proposed major map” in [BAMM](#) can be found in the [Build a Major Map Training Guide](#).

B. Summary of credit hours required for this program

Total credit hours must be 120 and include first year composition, general studies, core/required courses, program specific electives, and any additional requirements (e.g., concentration credits).

| Requirements | Credit Hours |
|-----------------------------------|--------------|
| First Year Composition | 6 |
| ASU 101 (or Equivalent) | 1 |
| General Studies | 30 |
| Core/required courses | 45 |
| Program specific electives | 9 |
| Additional requirements | |
| Other; Electives | 29 |
| Total | 120 |

C. Core/Required Courses.

- i. Total required and/or core course credit hours:
16 courses, 45 total credit hours

- ii. List the name, prefix, and credit hours for each required/core course for this program
 - MAT 265 Calculus for Engineers I (3 credit hours)
 - MAT 266 Calculus for Engineers II (3 credit hours)
 - MAT 267 Calculus for Engineers III (3 credit hours)
 - PHY 121 University Physics I: Mechanics (3 credit hours)
 - PHY 122 University Physics Laboratory I (1 credit hour)
 - PHY 131 University Physics II: Electricity and Magnetism (3 credit hours)
 - PHY 132 University Physics Laboratory II (1 credit hour)
 - PHY 201 Mathematical Methods in Physics I (3 credit hours)
 - PHY 252 Physics III (4 credit hours)
 - PHY 302 Mathematical Methods in Physics II (3 credit hours)
 - PHY 314 Quantum Physics I (3 credit hours)
 - PHY 315 Quantum Physics II (3 credit hours)
 - PHY 416 Quantum Physics III (3 credit hours)
 - PHY 444 Fundamentals of Nanoscience (3 credit hours)
 - PHY 460 Numerical Methods in Modern Physics (3 credit hours)
 - PHY 495 Project Research (3 credit hours)

D. Program Specific Electives.

- i. Total required program elective credit hours:
9

- ii. List the name, prefix, and credit hours for any program specific electives for this program:
 - MAT 343 Applied Linear Algebra (3 credit hours)
 - PHY 321 Vector Mechanics and Vibration (3 credit hours)
 - PHY 331 Principles of Modern Electromagnetism (3 credit hours)
 - PHY 333 Electronic Circuits and Measurements (3 credit hours)
 - PHY 361 Introductory Modern Physics (3 credit hours)
 - PHY 456 Laser Optics (3 credit hours)
 - PHY 499 Individualized Instruction (3 credit hours)
 - STP 420 Introductory Applied Physics (3 credit hours)

E. Additional Program Requirements, if any:

List and describe any capstone experiences, milestone, and/or additional requirements.
NA

F. Concentrations

- I. Are any concentrations to be established under this degree program? No, concentrations will not be established.
- II. If yes, are concentrations required? (Select One)
- III. List courses & additional requirements for the proposed concentration (s):

| Concentration Name | Total credit hours | Core/Required Courses for Concentration (Prefix, # & Title) | Total Core credit hours | Program Specific Electives (include course name and prefix) | Total Elective credit hours | Additional Requirements (i.e. milestones, capstones) |
|--------------------|--------------------|---|-------------------------|---|-----------------------------|--|
| | | | | | | |
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4. New Course Development

A. Will a new course prefix (es) be required for this degree program? No

If yes, list prefix name(s) (i.e. ENG- English)

Note: A request for a New Prefix form must be completed for each new prefix required and submitted with this proposal: http://provost.asu.edu/files/shared/curriculum/Prefix_Request.doc.

B. New Courses Required for Proposed Degree Program.

List all new courses required for this program, including course prefix, number and course description.

PHY 460, Numerical Methods in Modern Physics - course covers several advanced topics of modern physics and applications of numerical methods to solve real life problems using parallel supercomputers.

Note: New course requests must be submitted electronically via [Curriculum ChangeMaker](#) and undergo all internal university review and approval steps including those at the unit, college, and university levels.

5. Program Need

Explain why the university needs to offer this program (include target audience and market).

The proposed degree program will attract students wishing to learn both fundamental physics and its real life applications in engineering, material design, and numerical modeling.

6. Impact on Other Programs

List other academic units that might be impacted by the proposed program and describe the potential impact (e.g., how the implementation of this program might affect student headcount/enrollment, student recruitment, faculty participation, course content, etc. in other programs). Attach letters of collaboration/support from impacted programs.

The intent of establishing the proposed degree is to enhance the student growth at the Polytechnic campus through both direct enrollment of freshmen and collaboration with other programs. Engineering students at the Ira A. Fulton Schools of Engineering located at the Polytechnic campus should also be able to benefit from the proposed degree as all new courses will be available for them. The proposed degree should have a positive impact on recently approved applied mathematics program.

7. Projected Enrollment

How many new students do you anticipate enrolling in this program each year for the next five years?

| 5-YEAR PROJECTED ANNUAL ENROLLMENT | | | | | |
|---|----------------------|--|--|---|--|
| | 1 st Year | 2 nd Year (Yr 1 continuing + new entering) | 3 rd Year (Yr 1 & 2 continuing + new entering) | 4 th Year (Yrs 1, 2, 3 continuing + new entering) | 5 th Year (Yrs 1, 2, 3, 4 continuing + new entering) |
| Number of Students Majoring (Headcount) | 15 | 25 | 50 | 75 | 100 |

8. Accreditation or Licensing Requirements

If applicable, provide the names of the external agencies for accreditation, professional licensing, etc. that guide your curriculum for this program, if any. Describe any requirements for accreditation or licensing. N/A

9. Faculty & Staff

A. Current faculty

List the name, rank, highest degree, area of specialization/expertise and estimate of the level of involvement of all current faculties who will teach in the program.

Xihong Peng, PhD, physics, Associate Professor
Igor Shovkovy, PhD, physics, Associate Professor
Maxim Sukharev, PhD, physics, Associate Professor
Elizabeth Chain, PhD, physics, Instructional Professional
Alan Coney, PhD, physics, Instructor
Adam Blake, MSc, physics, Instructional Professional
Saliha Akca-Hobbins, MSc, physics, Instructional Professional
Punitha Rajahram, MSc, physics, Instructional Professional
James Degraffenreid, PhD, physics, Instructional Professional

B. New Faculty:

Describe the new faculty hiring needed during the next three years to sustain the program. List the anticipated hiring schedule and financial sources for supporting the addition of these faculty members.

Three tenure-track lines, two lecturers, two instructors, and two instructional professionals are requested to support proposed degree program. At least one of the new faculty should be experimental physicist to insure the highest quality of the proposed applied nature of the program. Giving the anticipated growth in engineering programs at the Polytechnic campus a total number of courses offered per semester is 14 (two sections each - PHY101, PHY111, PHY112, PHY121, PHY131, PHY321, PHY331, additionally each mentioned class is accompanied by at least two corresponding labs). The proposed hiring of two lecturers, two instructors, and two additional instructional professionals will ensure continuous support of engineering programs and will allow faculty to offer upper division courses.

C. Administration of the program.

Explain how the program will be administered for the purposes of admissions, advising, course offerings, etc. Discuss the available staff support.

The program will be administered and supported by staff at the College of Letters and Sciences.

10. Resources (necessary to launch and sustain the program)**A. Required resources:**

Describe any new resources required for this program's success, such as new support staff, new facilities, new library resources, new technology resources, etc.

Undergraduate advisor support staff is requested. Resources to support hiring of one experimental tenure-track persons is requested. Additional \$40,000 is requested to build and maintain a multi-processor computer cluster, which will be heavily utilized in several core courses.

B. Resource acquisition:

Explain how the resources to support this program will be obtained.

Attained through program growth and development

APPENDIX
OPERATIONAL INFORMATION FOR UNDERGRADUATE PROGRAMS

(This information is used to populate the Degree Search/catalog website.)

1. Program Name (Major): Applied Physics

2. Program Description (150 words maximum)

The acceleration of advances at the frontier between physics, engineering and technology creates a need for interdisciplinary training and research that is not readily accommodated by traditional single-focus programs in physics. Bringing fundamental physics together with its immediate applications, the BS in applied physics will be attractive to students whose interests span new physical technologies in industry and engineering. The degree combines physics, computer science and applied mathematics to tackle complex real-life problems in physics, material sciences, engineering, chemistry and others.

The bachelor's brings together the expertise of physics faculty, particularly in modeling of physical systems which relies heavily on both modern numerical techniques and fundamental physics. The growing presence of Intel and other high-tech companies in the East Valley and Metropolitan Phoenix presents a unique opportunity to enhance the students' interaction with industry. Understanding importance of hands-on experience, the degree program offers a series of unique courses allowing students interactive involvement in a project-based environment.

3. Contact and Support Information

| | |
|--|---------------------|
| Building Name, code and room number: (<i>Search ASU map</i>) | WANER 101 |
| Program office telephone number: (<i>i.e. 480/965-2100</i>) | 480/727-1526 |
| Program Email Address: | cls@asu.edu |
| Program Website Address: | https://cls.asu.edu |

4. Delivery/Campus Information Delivery: On-campus only (ground courses and/or iCourses)

Note: Once students elect a campus or On-line option, students will not be able to move back and forth between the on-campus and the ASU Online options. Approval from the Office of the University Provost and Philip Regier (Executive Vice Provost and Dean) is required to offer programs through ASU Online.

5. Campus/Locations: indicate all locations where this program will be offered.

Downtown Phoenix Polytechnic Tempe West Other:

6. Additional Program Description Information

- A. Additional program fee required for this program? No
- B. Does this program have a second language requirement? No

7. Career Opportunities & Concentrations

Provide a brief description of career opportunities available for this degree program. If program will have concentrations, provide a brief description for each concentration. (150 words maximum)

Graduates of this program should be able to apply their knowledge in high-performance and scientific computing, biophysics, condensed matter physics, chemistry, material science, electrodynamics, and radar physics. This knowledge is vital for employment in chemical and pharmaceutical companies, environmental management agencies, and firms specializing in scientific software. Graduates should also be prepared to continue their studies in graduate programs in physics and chemistry.

8. Additional Admission Requirements

If applicable list any admission requirements (freshman and/or transfer) that are higher than and/or in addition to the university minimum undergraduate admission requirements.) N/A

9. Keywords

List all keywords used to search for this program. Keywords should be specific to the proposed program.
applied physics, computer science, material science, parallel computing, physics modeling, technology

10. Advising Committee Code

List the existing advising committee code to be associated with this degree.
UGBISP

*Note: If a new advising committee needs to be created, please complete the following form: [Proposal to create an undergraduate](#)
Proposal for a New Undergraduate Degree Program*

[advising committee](#)

11. First Required Math Course

List the first math course required in the major map. MAT 265 Calculus for Engineers I

12. WUE Eligible:

Has a request been submitted to the Provost by the Dean to consider this degree program as eligible for WUE? No

Note: No action will be taken during the implementation process with regards to WUE until approval is received from the Provost.

13. Math Intensity:

a. List the highest math course required on the major map. (This will not appear on Degree Search.) MAT 267

b. What is the math intensity as indicated by the highest math required on the major map? Math intensity categorization can be found here: <https://catalog.asu.edu/mathintensity> Substantial

14. CIP codes

Identify CIP codes that should be displayed on Degree Search. CIP codes can be found at: <http://www.onetonline.org/crosswalk/CIP/>.

| | |
|------------|------------|
| 25-1054.00 | 17-2199.07 |
| 17-2199.09 | 11-9121.00 |
| 15-1131.00 | |

Are any specific career codes (SOC/ONET codes) to be omitted from the CIP codes selected above? (i.e. "Omit 25-10312.00 Engineering Teachers, Postsecondary from CIP code 14.0501 Bioengineering and Biomedical Engineering.")

15. Area(s) of Interest

A. Select **one (1)** primary area of interest from the list below that applies to this program.

- | | |
|--|--|
| <input type="checkbox"/> Architecture & Construction | <input type="checkbox"/> Health & Wellness |
| <input type="checkbox"/> Arts | <input type="checkbox"/> Humanities |
| <input type="checkbox"/> Business | <input type="checkbox"/> Interdisciplinary Studies |
| <input type="checkbox"/> Communications & Media | <input type="checkbox"/> Law & Justice |
| <input type="checkbox"/> Computing & Mathematics | <input type="checkbox"/> STEM |
| <input type="checkbox"/> Education & Teaching | <input checked="" type="checkbox"/> Science |
| <input type="checkbox"/> Engineering & Technology | <input type="checkbox"/> Social and Behavioral Sciences |
| <input type="checkbox"/> Entrepreneurship | <input type="checkbox"/> Sustainability |
| <input type="checkbox"/> Exploratory | |

B. Select **one (1)** secondary area of interest from the list below that applies to this program.

- | | |
|--|--|
| <input type="checkbox"/> Architecture & Construction | <input type="checkbox"/> Health & Wellness |
| <input type="checkbox"/> Arts | <input type="checkbox"/> Humanities |
| <input type="checkbox"/> Business | <input type="checkbox"/> Interdisciplinary Studies |
| <input type="checkbox"/> Communications & Media | <input type="checkbox"/> Law & Justice |
| <input checked="" type="checkbox"/> Computing & Mathematics | <input type="checkbox"/> STEM |
| <input type="checkbox"/> Education & Teaching | <input type="checkbox"/> Science |
| <input type="checkbox"/> Engineering & Technology | <input type="checkbox"/> Social and Behavioral Sciences |
| <input type="checkbox"/> Entrepreneurship | <input type="checkbox"/> Sustainability |
| <input type="checkbox"/> Exploratory | |

The following fields are to be completed by the Office of the University Provost.

CIP Code: _____

Plan Code: _____

Office of the University Provost Approvals

Office of the Graduate Education

(if applicable)

Signature _____ Date: ____ / ____ /20

Office of the University Provost

Signature _____ Date: ____ / ____ /20

Note: An electronic signature or an email from the above listed individuals may be accepted



2015 - 2016 Major Map

Applied Physics, (Proposed)

PBUQAAT

| Term 1 | 0 - 13 Credit Hours | Critical course signified by | Hours | Minimum Grade | Notes |
|--------|--|------------------------------|-------|---------------|---|
| | MAT 265: Calculus for Engineers I (MA) | | 3 | C | <ul style="list-style-type: none"> An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses. ASU Mathematics Placement Test score determines placement in Mathematics course. ASU 101 or College-specific equivalent First Year Seminar required of all freshman students. |
| | ASU 101: The ASU Experience | | 1 | | |
| | ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition | | 3 | C | |
| | Humanities, Arts and Design (HU) | | 3 | | |
| | Social-Behavioral Sciences (SB) | | 3 | | |
| | Term hours subtotal: | | 13 | | |

| Term 2 | 14 - 28 Credit Hours | Critical course signified by | Hours | Minimum Grade | Notes |
|--------|--|------------------------------|-------|---------------|-------|
| | MAT 266: Calculus for Engineers II (MA) | | 3 | C | |
| | PHY 121: University Physics I: Mechanics (SQ) AND PHY 122: University Physics Laboratory I (SQ) | | 4 | C | |
| | ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition | | 3 | C | |
| | Humanities, Arts and Design (HU) | | 3 | | |
| | Elective | | 2 | | |
| | Complete ENG 101 OR ENG 105 OR ENG 107 course(s). | | | | |
| | Term hours subtotal: | | 15 | | |

| Term 3 | 29 - 44 Credit Hours | Critical course signified by | Hours | Minimum Grade | Notes |
|--------|---|------------------------------|-------|---------------|-------|
| | MAT 267: Calculus for Engineers III (MA) | | 3 | C | |
| | PHY 131: University Physics II: Electricity and Magnetism (SQ) AND PHY 132: University Physics Laboratory II (SQ) | | 4 | C | |
| | Global Awareness (G) | | 3 | | |
| | Social-Behavioral Sciences (SB) | | 3 | | |
| | Elective | | 3 | | |
| | Complete Mathematics (MA) requirement. | | | | |
| | Term hours subtotal: | | 16 | | |

| Term 4 | 45 - 60 Credit Hours | Critical course signified by | Hours | Minimum Grade | Notes |
|--------|---|------------------------------|-------|---------------|-------|
| | PHY 201: Mathematical Methods in Physics I (CS) | | 3 | C | |
| | PHY 252: Physics III (SQ) | | 4 | C | |
| | Historical Awareness (H) | | 3 | | |
| | Literacy and Critical Inquiry (L) | | 3 | | |
| | Elective | | 3 | | |
| | Term hours subtotal: | | 16 | | |

| Term 5 | 61 - 75 Credit Hours | Necessary course signified by | Hours | Minimum Grade | Notes |
|--------|--|-------------------------------|-------|---------------|-------|
| | PHY 302: Mathematical Methods in Physics II | | 3 | C | |
| | PHY 314: Quantum Physics I | | 3 | C | |
| | Upper Division Applied Physics Electives | | 3 | C | |
| | Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB) | | 3 | | |
| | Cultural Diversity in the U.S. (C) | | 3 | | |
| | Term hours subtotal: | | 15 | | |

| Term 6 | 76 - 90 Credit Hours | Necessary course signified by | Hours | Minimum Grade | Notes |
|--------|--|-------------------------------|-------|---------------|-------|
| | PHY 315: Quantum Physics II | | 3 | C | |
| | Upper Division Applied Physics Electives | | 3 | C | |
| | Complete 3 courses: Elective | | 9 | | |
| | Term hours subtotal: | | 15 | | |

| Term 7 | 91 - 105 Credit Hours | Necessary course signified by | Hours | Minimum Grade | Notes |
|--------|--|-------------------------------|-------|---------------|-------|
| | PHY 416: Quantum Physics III | | 3 | C | |
| | PHY 460: Numerical Methods in Modern Physics | | 3 | C | |
| | Upper Division Applied Physics Electives | | 3 | C | |
| | Upper Division Literacy and Critical Inquiry (L) | | 3 | | |

| | |
|----------------------|----|
| Elective | 3 |
| Term hours subtotal: | 15 |

| Term 8 by ★ | 106 - 120 Credit Hours | Necessary course signified | Hours | Minimum Grade | Notes |
|--|------------------------|----------------------------|-------|---------------|-------|
| ★ PHY 444: Fundamentals of Nanoscience | | | 3 | C | |
| ★ PHY 495: Project Research | | | 3 | C | |
| Complete 3 courses: Upper Division Elective | | | 9 | | |
| Term hours subtotal: | | | 15 | | |

Applied Physics Electives (Complete 9 Credit Hours)

MAT 343: Applied Linear Algebra

PHY 321: Vector Mechanics and Vibration

PHY 331: Principles of Modern Electromagnetism

PHY 333: Electronic Circuits and Measurements

PHY 361: Introductory Modern Physics

PHY 456: Laser Optics

PHY 499: Individualized Instruction

STP 420: Introductory Applied Statistics (CS)

Hide Course List(s)/Track Group(s)

Total Hours: 120
Upper Division Hours: 45 minimum
Major GPA: 2.00 minimum
Cumulative GPA: 2.00 minimum
Total hrs at ASU: 30 minimum
Hrs Resident Credit for Academic Recognition: 56 minimum
Total Community College Hrs: 64 maximum

General University Requirements Legend

General Studies Core Requirements:

- Literacy and Critical Inquiry (L)
- Mathematical Studies (MA)
- Computer/Statistics/Quantitative Applications (CS)
- Humanities, Arts and Design (HU)
- Social-Behavioral Sciences (SB)
- Natural Science - Quantitative (SQ)
- Natural Science - General (SG)

General Studies Awareness Requirements:

- Cultural Diversity in the U.S. (C)
- Global Awareness (G)
- Historical Awareness (H)

First-Year Composition

General Studies designations listed on the major map are current for the 2015 - 2016 academic year.

Jennifer Malerich

From: Duane Roen
Sent: Wednesday, August 12, 2015 1:42 PM
To: Jennifer Malerich; Curriculum Planning; Phyllis Lucie; Lauren Leo
Cc: Chris Martin
Subject: FW: impact statement

Follow Up Flag: Flag for follow up
Flag Status: Flagged

All,

Here is Peter Bennett's impact statement. Sorry. I thought for certain that we had forwarded it before.

Thanks for your help.

Duane

Duane Roen
Dean, College of Letters and Sciences
Dean, University College
Arizona State University | Undergraduate Academic Services Building, Room 228
Box 871901 | Tempe, AZ 85287-1901
Voice: 480-727-6513 | Fax: 480-727-6344 | Email: duane.roen@asu.edu

From: Peter Bennett <peter.bennett@asu.edu>
Subject: RE: impact statement
Date: April 16, 2015 at 10:29:43 AM MST
To: Richard Lebed <Richard.Lebed@asu.edu>, Ricardo Alarcon <RICARDO.ALARCON@asu.edu>, Ixchell Paape <Ixchell.Paape@asu.edu>
Cc: Maxim Sukharev <Maxim.Sukharev@asu.edu>

Maxim,

As I understand it, this can constitute our formal response. Good luck with enrollment!

Peter A. Bennett
Professor and Chair, Department of Physics, PSF470
Arizona State University, Box 871504, Tempe AZ 85287-1504
Contacts: 480-727-9394; peter.bennett@asu.edu; <http://bennett.asu.edu/>

From: Peter Bennett
Sent: Thursday, April 16, 2015 10:27 AM
To: Richard Lebed; Ricardo Alarcon; Ixchell Paape
Subject: RE: impact statement

Rich et al,

Rich just de-briefed me on this, and it looks fine. Thank you (and Ricardo) for scrambling the jets for our colleagues at Poly. Please go ahead and send them whatever formal approval they need.

Peter A. Bennett

Professor and Chair, Department of Physics, PSF470

Arizona State University, Box 871504, Tempe AZ 85287-1504

Contacts: 480-727-9394; peter.bennett@asu.edu; <http://bennett.asu.edu/>

From: Richard Lebed
Sent: Thursday, April 16, 2015 10:11 AM
To: Peter Bennett; Ricardo Alarcon; Ixchell Paape
Subject: RE: impact statement

Dear Peter and Ricardo,

In light of Maxim's response, my only comments to put in the impact statement are this:

Since the ultimate degrees (Applied Physics B.S. at Polytechnic, and Physics B.S. at Tempe) are different, the student populations are also different; we do not expect to see enrollment in the major at the Tempe Campus to change considerably. The new courses in common between the Polytechnic Campus proposal and the existing ones at the Tempe Campus are PHY 201, 252, 302, and 314. The catalog course descriptions will be the same, of course, but for easy transferability it will be useful for compatible syllabi to be developed for the new offerings. Lastly, the first three of these courses are offered at Tempe Campus in the "studio physics" style, in which most of the class time is dedicated to small-group projects; we encourage our colleagues at Polytechnic Campus to adopt a similar approach, if practicable.

-Rich

From: Maxim Sukharev
Sent: Thursday, April 16, 2015 9:57 AM
To: Richard Lebed
Cc: Peter Bennett; Ricardo Alarcon; Ixchell Paape
Subject: Re: impact statement
Importance: High

Rich,

just to clarify. We [as in Poly physics faculty] are going to teach ALL the courses thus no need to discuss any teaching assignments.

Maxim.

On Apr 16, 2015, at 9:49 AM, Richard Lebed <Richard.Lebed@asu.edu> wrote:

Hi Maxim,

Many apologies for this process taking so long. I'm not sure where it is stuck right now, but I offered my comments to Ricardo Alarcon (who actually arranges for the teaching assignments here) some weeks ago. Since his comments to our

chair reflect the ones I made to him, I am attaching them below. I'll try to find Peter today to see if we can expedite the process. -Rich

There are a number of issues that need clarification before we can produce an impact statement for this request. Specifically, the following courses are listed as requirements: PHY 201, 252, 302, and 314. It is not clear to us who will teach these courses. I think the first order of business is to find out from Chris Martin who will be teaching these courses. If it is us, then there are enrollment demands that need to be looked into, especially for the cases of PHY 201, 252, and 302. Also, the course PHY 314 is listed as being offered in the Spring semester but we only offer it in the Fall semester.

From: Maxim Sukharev
Sent: Thursday, April 16, 2015 9:17 AM
To: Richard Lebed; Peter Bennett
Subject: impact statement
Importance: High

Good morning Peter, Rich,

we have revised our BS in Applied Physics proposal [attached both the proposal and the major map]. I was trying to call you but unfortunately keep getting your voicemails. We really need an impact statement from you. This could be even a simple sentence. Thank you in advance for your help.

Maxim.

~~~~~  
**Maxim Sukharev, Ph.D.**  
**Associate Professor**  
**Science and Mathematics Faculty**  
**College of Letters and Sciences**  
**Arizona State University**  
**Mesa, AZ 85212**  
**Tel: +1 (480) 727 1398**  
<http://sukharev.faculty.asu.edu>  
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