

PROPOSAL FOR A *Space Engineering, Policy and Science (SEPS)* DEGREE PROGRAM



WICHITA SPACE INITIATIVE

EXECUTIVE SUMMARY:

Proposed herewith is an interdisciplinary *Space Engineering, Policy and Science* program that will train future space scientists, engineers and policymakers, catering to the needs of the burgeoning space industry. The program will offer undergraduate (A.S. and B.S.) and graduate degrees (M.S. and Ph.D.), providing the opportunity for students to specialize in four focused tracks: science, engineering, bioastronautics and ethics/policy.

The program is targeted to capitalize on the booming private space industry, which is forecast to grow from its current \$10B annual revenue to greater than \$1T by 2030, owing to enhanced privatization of activities in near-Earth space, through commerce, debris remediation, space tourism and mining of celestial bodies. Projected growth in this sector will require tacit coordinated efforts by the scientists, engineers and policymakers of tomorrow to develop innovative and sustainable solutions to an array of challenges. The interdisciplinary flavor of the proposed program will therefore help build the foundation required to address the immediate and future needs of the space industry. Only a handful of similar interdisciplinary programs exist nationwide and these are not sufficient to cater to the needs of the growing commercial space industry.

The proposed program will address these needs by leveraging existing courses in the *Colleges of Applied Studies, Engineering, and Liberal Arts and Sciences*, providing remarkable opportunities for interdisciplinary experiential learning for our students. The anticipated enrollment of 50 at its inception is envisioned to expand six-fold over the next ten years. Governmental and commercial stakeholders in Kansas realize the importance of exploiting our existing strengths in aeronautics manufacturing infrastructure to kick-start new ventures in space manufacturing, thereby boosting the state's economy. Being the first of its kind in the state, the program will accelerate efforts in Kansas to capitalize on the tremendous growth anticipated in the space sector over the coming decade.

PROPOSAL FOR A *Space Engineering, Policy and Science (SEPS)* DEGREE PROGRAM
AT WICHITA STATE UNIVERSITY

1. PROPOSAL AUTHORS

- **Primary Contact: Nick Solomey, Physics, College of Liberal Arts and Sciences, nick.solomey@wichita.edu**
- Ryan Amick, Human Performance Studies, College of Applied Studies.
- Atri Dutta, Aerospace Engineering, College of Engineering.
- Mark Schneegurt, Biological Sciences, and James Schwartz, Philosophy; College of Liberal Arts and Sciences.

2. PROGRAM TITLE

- Space Engineering, Policy, and Science (SEPS).

3. RESPONSIBLE DEPARTMENTS

The program of study in Space Engineering, Policy and Science will be housed in Physics, since space science and physics have always gone hand in hand in their academic development. Affiliated faculty will be located in Aerospace Engineering, Biological Sciences, Human Performance Studies, and Philosophy.

4. DESCRIPTION AND JUSTIFICATION

The creation of a range of degree programs in the field of Space Engineering, Policy and Science (SEPS) is proposed. This program would offer A.S., B.S., and double major opportunities, as well as graduate degrees including both M.S. and Ph.D., at Wichita State University. Four separate degree tracks are proposed, corresponding to four arenas of space-sector employment: Physics, Engineering, Bioastronautics, and Ethics and Policy:

- The *Physics* track will prepare students for basic space science experiments or measurements for either science experiments or associated measurements for habitat or robotic irradiation and how instruments work under hazardous space conditions.
- The *Engineering* track will educate students on the dynamics and control of spacecraft, space propulsion, mission design, systems engineering, and space situational awareness.
- The *Bioastronautics* track will train students in space life science applications relevant to space travel, including habitats and human health in space. Students also can focus on astrobiology and planetary protection relevant to crewed and robotic space exploration.
- The *Ethics/Policy* track will teach students to engage with issues of contemporary concern in space policy, preparing them for careers as policyworkers at spaceflight companies, space programs, and space policy think tanks.

SEPS programs will be the first of their kind in the State of Kansas, and will attract students interested in engineering, natural sciences, space policy, and human performance. SEPS programs also will attract new space industry to Kansas—a sector that is expected to grow 100-fold over the next 10 years with the onset of asteroid mining and space tourism, in addition to expanded space defense activities with the creation of a new military space force.

The private space sector is a \$10B per year industry, with over 375 active companies (see Fig. 1). The top ten companies in the Private Space business are SpaceX, Global Eagle, Spaceflight Inc., Thermo, Spinlaunch, Reaction Engines, iSpace, Relativity Space, Goonhilly Earth Station and ICEYE, with yearly private investments from \$500M for SpaceX to \$34M for ICEYE. According to Space Angels, a large Private Space Investment firm, **space investments are expected to grow into the trillion-dollar range by the year 2030—just 12 years from now!**

Equity Investments From 2009 To Present

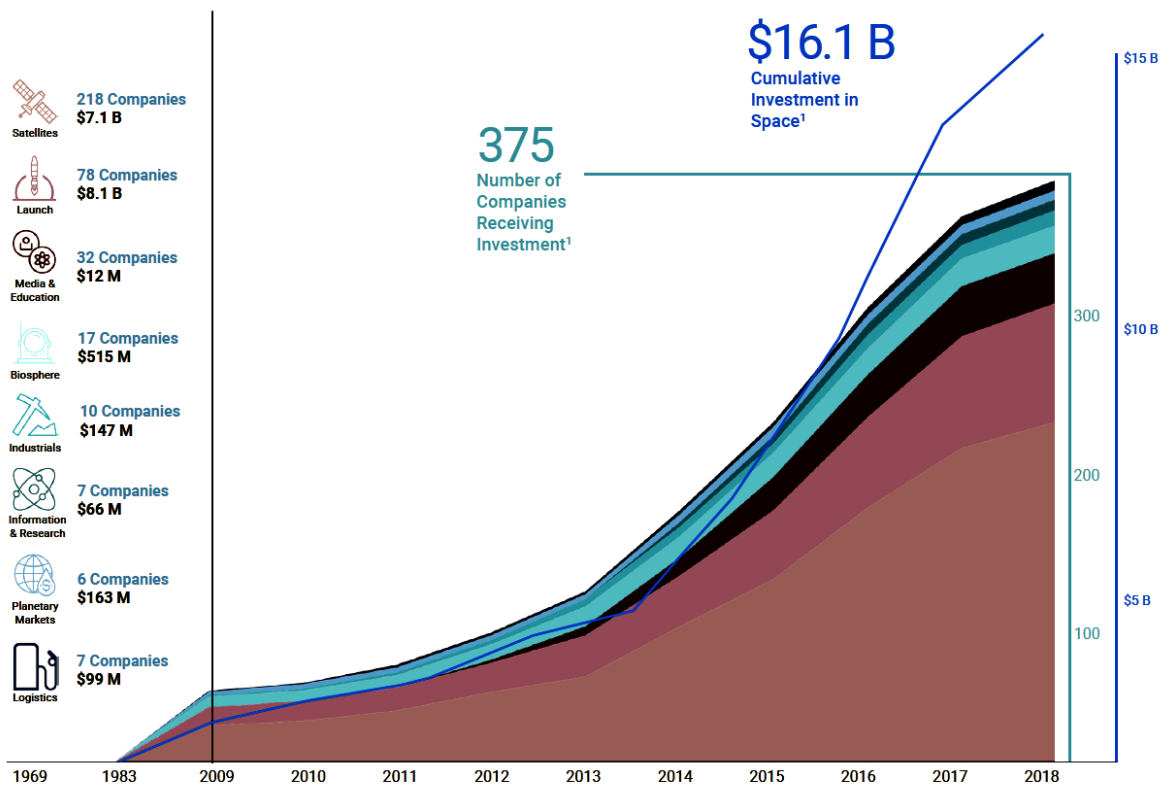


Figure 1: Space investment trends, Space Angels, 2018-Q3 *Space Investment Quarterly*.

With this growth comes the need for skilled and highly educated workers—not just engineers, scientists, and policy analysts—but engineers, scientists, and policy analysts with specialized knowledge of and experience in the space sector. **By 2024 the space industry is expected to add 8,500 new jobs** for candidates with professional education and credentials in space science, engineering, and policy, with continued, exponential growth expected

over the following 10 year period (<https://www.bls.gov/careeroutlook/2016/article/careers-in-space.htm>).

This large, growing, and unmet demand for employees with expertise in space can only be addressed through the creation of new, competitive degree programs. Currently only a handful of U.S. schools offer programs of study in the space sciences, including Arizona State, University of Alabama Huntsville, Rice University, Emory University, and University of Southern California, as well as a few others with minor programs. The SEPS program would allow Wichita State to capitalize on the current window of opportunity to attract future space-industry employees, which would dramatically raise the University’s profile on the national and international stages.

Graduates of SEPS programs are therefore needed to fill high paying jobs with companies all across the country. A majority of SEPS classes are already taught at the University for other programs of study such as Engineering, Philosophy, Physics, Geology, and Biology. The humanities and social sciences—in particular Philosophy and Political Science—will play an important role in SEPS programs due to the relevance of ethics and policy to space science, bioastronautics, and spaceflight engineering. All of these factors make the creation of a new program of study in Space Engineering, Policy and Science very attractive as a way to grow enrollments and funded research at Wichita State, but also to grow Kansas industry.

5. COMMUNITY IMPACT AND LINK TO WSU’S MISSION

A SEPS degree program would help considerably to advance WSU’s mission to be an essential educational and economic driver for Kansas and the wider public. This is because **the potential for further growth in Kansas in the rapidly growing space sector hinges on the development, in Kansas, of highly skilled space scientists, engineers, and policy analysts.** While some such development might occur within existing WSU programs, there is a clear need for specialized education in space science, engineering, and policy. By creating SEPS degree programs at the undergraduate and graduate levels, WSU will fill the need for growing private space companies locally and nationally.

Historically, universities offering space science programs have been located near NASA or space industry facilities, and have had working research relationships with these facilities. With the ongoing growth of the private space sector and a rapidly growing job market in a variety of locations around the United States, including Wichita, WSU is well placed to collaborate with the space industry. Current WSU faculty have working relationships with several NASA facilities, including NASA Headquarters, Kennedy Space Center, Johnson Spaceflight Center, Marshall Spaceflight Center, Goddard Spaceflight Center, Ames Research Center, Jet Propulsion Laboratory, and the SETI Institute. Moreover, in 2017 the Kansas Department of Commerce launched a marketing campaign to bring spacecraft manufacturing to Kansas (<https://www.kansascity.com/news/politics-government/article136829003.html>). **Thus Kansas—especially the Wichita metro area—has an established aviation manufacturing infrastructure that can be leveraged for new ventures in space.**

6. EXPECTED STUDENT DEMAND

WSU already enrolls many students interested in space exploration, however SEPS degrees will appeal to students interested in space careers not only locally and within the I-35 corridor, but also nationally and internationally. Thus SEPS offerings will increase in-state, out-of-state, and international enrollments at WSU.

- In the first year, we expect 50 students in SEPS programs.
- After five years, we expect 100 students in SEPS programs.
- After ten years, we expect 300 students in SEPS programs.

SEPS program offerings are more comprehensive (with degrees in physics, engineering, policy, and bioastronautics) than space science programs elsewhere, and thus will draw students interested in a diverse array of space sector careers:

Astronomers	Aerospace Engineering Technicians
Astrobiologists	Avionics Technicians
Space Scientists	Space Suit Technicians
Aerospace Engineers	Space Health Specialists
Computer Hardware Engineers	Space Policy Analysts
Mechanical Engineers	Public Relations Specialists
Systems Engineers	And many others

For this reason we expect overall SEPS enrollments to be greater, reflective of total university enrollments, when compared to existing, single-track programs at other institutions (see Table 1).

School and Program	Total Enrollment	Space Degree Enrollment	Space Degrees Conferred
Arizona State University, Earth and Space Exploration B.S.	59,000 undergraduates; 12,000 graduates	384 (in 2013)	Information unavailbale
George Washington University, Space Policy Institute M.A.	11,000 undergraduates; 15,000 graduates	≈ 30/year	≈ 10-30/year
University of Alabama Huntsville, M.S. and Ph.D. in Space Science	6,400 undergraduates, 1,900 graduates	≈ 25/year	≈ 7-8/year
University of North Dakota, M.S. in Space Studies	11,000 undergraduates, 3,500 graduates	≈ 120/year (45 campus; 75 on-line)	≈ 25/year

Table 1: Enrollments in space degree programs at other institutions.

7. DEGREE REQUIREMENTS

While Associates, Masters, and Doctoral SEPS degrees are being proposed, the foundation of the SEPS program will be its B.S. program. Students seeking a SEPS B.S. degree will be required to take a common core of classes, with additional course requirements varying based on their track selection. They also will have to fulfill general education and experiential learning requirements. Listed below are course requirements for all four SEPS tracks. *New courses and/or courses created for SEPS are marked with †.*

Course Requirements for *all* SEPS B.S. degrees:

PHYS 131 Physics for Health Sciences or PHYS 313/315 Physics for Scientists I/Lab	†BIOL 5XX Astrobiology CHEM 211 General Chemistry I CHEM 212 General Chemistry II	GEOL 102 Earth Science & the Environ- ment or GEOL 111 General Geology GEOL 302 Earth and Space Sciences
PHYS 395 Solar System Astronomy	†AE 2XX Intro. Astronautical Engineer- ing	†SEPS 1XX Intro. Space Science
PHIL 144 Moral issues	†HPS XXX Radiation	†SEPS 1XX Space Science Seminar
†PHIL 5XX Ethics of Space Exploration	MATH 242 Calculus I	
BIOL 210 General Biology I	MATH 243 Calculus II	
BIOL 211 General Biology II		

Course Requirements for the *Engineering* Track:

AE 223 Statics	AE 424 Aerodynamics	ME 250 Materials Engineering
AE 227 Eng. Digital Computation	†AE XXX Space Propulsion	ME 398 Thermodynamics
AE 324 Fundamentals of Atmospheric Flight	AE 715 Intermediate Space Dynamics	PHIL 385 Engineering Ethics
AE 333 Mechanics of Materials	AE 760 NanoSatellite Eng.	PHYS 314 Physics for Scientists II
AE 373 Dynamics	AE 773 Intermediate Dynamics	MATH 344 Calculus III
AE 415 Intro. Space Dynamics	IME 549 Industrial Ergonomics	MATH 555 Differential Equations I
	EE 283 Circuits	

Course Requirements for the *Ethics/Policy* Track:

PHIL 105 Critical Reasoning or PHIL 125 Introductory Logic	PHIL 360 Ethical Theory	POLS 220 Intro. International Relations
PHIL 300 Science & the Modern World	PHIL 555 Philosophy of the Social Sci- ences	POLS 365 Political Research Methods
PHIL 311 Philosophy of Law	†PHIL 5XX Environmental Ethics	POLS 390F Lobbyists & Interest Groups
PHIL 320 Philosophy of Science	POLS 121 American Politics	PSY 546 Aerospace Psychology

Course Requirements for the *Physics* Track:

PHYS 314/316 Physics for Scientists II/Lab	PHYS 555 Modern Optics	PHYS 641 Thermophysics
PHYS 516 Advanced Physics Labora- tory	PHYS 595 Astrophysics	MATH 344 Calculus III
PHYS 551 Topics in Modern Physics	PHYS 616 Computational Physics Lab	MATH 555 Differential Equations I And 2 Physics or Engineering Electives
	PHYS 621 Analytical Mechanics	
	PHYS 631 Electricity and Magnetism	

Course Requirements for the *Bioastronautics* Track:

BIOL 223 Anatomy and Physiology or BIOL 534 Human Physiology	HPS 461 Kinesiology	BME 480 Bioinstrumentation
BIOL 330 General Microbiology	HPS 490 Physiology of Exercise	BME 752 Appl. Human Biomechanics
BIOL 418 Genetics	HPS 790 Applied Exercise Physiology	BME 757 Clinical Biomechanics Instru- mentation
BIOL 420 Molecular Cell Biology	†SEPS XXX Spacesuits	PHIL 327 Bioethics
BIOL 530 Appl. Environmental Biology	†SEPS XXX Space Analog Training	PSY 546 Aerospace Psychology
HPS 328 Biomechanics	CHEM 533 Elem. Organic Chemistry	
	BME 477 Intro. Biomaterials	

Further Requirements include experiential learning activities in the form of internships, research projects, cooperative education, and/or engineering design, depending on a student's track and interests.

Our total credit hour requirement leaves room for all general education requirements not already met by SEPS requirements, as well as two technical electives appropriate to students' plans of study. There are many elective courses that would pair well with a SEPS degree, which means that SEPS programs will contribute to credit-hour production in nearly every college at WSU:

ARTH 125C Intro. Vis. and Mat. Culture: Power and Propaganda	MGMT 462 Leading and Motivating	ME 667 Mech. Prop. of Materials
THEA 253 Costuming for Stage & Film	MGMT 463 Building Effective Work Teams	ME 719 Basic Combustion Theory
THEA 357 Costume Design	HPS 229 Applied Human Anatomy	ME 737 Robotics and Control
ENTR 440 New Venture Feasibility Analysis	HPS 762 Statistical Concepts in HPS	BME 452 Biomechanics
ENTR 668 New Venture Development	IME 410 Robotics Technology	GEOL 564 Remote Sensing Interpretation
ENTR 445 Entrepreneurial Finance	ME 521 Fluid Mechanics	GEOL 621 Geochemical Cycling
ENTR 605 Technology Entrepreneurship	ME 522 Heat Transfer	GEOL 720 Geochemistry
MGMT 460 Designing Effective Orgs.	ME 659 Mechanical Control Systems	STAT 171 Introduction to Statistics
	ME 664 Intro. Fatigue & Fracture	STAT 370 Elementary Statistics
	ME 665 Materials Design & Manufacturing	

8. NECESSARY FACULTY RESOURCES

By the second year of the program only two new faculty will need to be hired to start the program for the explicit courses that need to be created for the Engineering and Physics tracks. As the program grows we see that no more than 6 or 7 new faculty hires (spread over five years) will be needed in total.

Unlike other graduate programs in the natural sciences, **M.S. and Ph.D. programs in SEPS will not require University-paid graduate students.** Graduate SEPS students will be intrinsically motivated with deep interests in space, and they also will have strong career prospects in high-paying areas of the space sector. Therefore these students will be willing and able to pay for their graduate education. **Nevertheless we anticipate significant external funding for graduate students.** Space science departments across the U.S. are very well funded for sponsored research both from government agencies such as NASA, NSF and DOD, as well as from a large variety of industry partners such as Boeing, United Launch Alliance, and SpaceX, to name a few. Graduate programs in SEPS, including funding for GTAs and GRAs, will be driven by grants from industry and from governmental agencies.

9. LETTERS OF SUPPORT

Attached are letters of support from:

Andrew Hippisley, FCLAS Dean	Jeffrey Hershfield, Chair of Philosophy
Holger Meyer, Chair of Physics	Neal Allen, Chair of Political Science
Scott Miller, Chair of Aerospace Engineering	
William Hendry, Chair of Biological Sciences	



WICHITA STATE
UNIVERSITY

FAIRMOUNT COLLEGE OF
LIBERAL ARTS AND SCIENCES

Office of the Dean

26 October 2018

Dr. Carolyn Shaw
Professor and Associate Vice President
for Strategic Enrollment Management

Andrew Hippisley
Dean,
Fairmount College of Liberal Arts and Sciences

Dear members of the committee,

Space Engineering, Policy and Science

I am writing in full support of the above proposal for the interdisciplinary program competition. This is an example of WSU getting ahead of the curve by anticipating strong and rapid growth in a sector and matching the educational needs that the growth will entail. The increase in investment in the private space sector from 2009 to present is stunning; and it is surprising how weak the educational response has been nationally, with only a handful of institutions carrying programs similar to what is proposed. The interdisciplinary nature of the program, embracing expertise within the Fairmount College of Liberal Arts and Sciences (hard sciences, social sciences, humanities) and across colleges (Engineering, Applied Studies) allows for programming that responds to the multi-layered needs of this sector. Not only is this the right time for such a program but also the right place: WSU serves a city whose roots are in aerospace research and manufacturing, and can naturally be adapted to the space industry; WSU already has much of the expertise needed to launch this program. The gaps that exist have been identified in the proposal. The projected numbers of new students would justify hiring into these areas.

Yours sincerely,

Andrew Hippisley

Dean of Fairmount College of Liberal Arts and Sciences
Professor of Linguistics
Wichita State University



**WICHITA STATE
UNIVERSITY**

**FAIRMOUNT COLLEGE OF
LIBERAL ARTS AND SCIENCES**

*Department of Mathematics,
Statistics, and Physics*

Holger Meyer
Department of Mathematics, Statistics, and Physics
Wichita State University

October 25, 2018

Dear Carolyn,

in response to the *Interdisciplinary Program Competition* a group faculty from three colleges prepared the *Proposal for a Space Engineering, Policy and Sciences Degree Program at Wichita State University*. This is a letter in strong support of the proposal.

As described in the proposal there is a unique opportunity with the proposed SEPS program to bring new students to WSU and open up new private sector funding from a rapidly growing industry. We are not currently set up to exploit this opportunity. I believe that the proposed new program will predominantly bring new students to Wichita State University rather than shift students to SEPS from existing programs at WSU.

While the SEPS program is truly interdisciplinary with four tracks for students to choose from, space sciences are most closely related to physics. It seems natural to house the new degrees in the Physics division of the MSP department to handle advising issues and administration efficiently. The Physics office will be able to handle administration of the new SEPS program without the need for additional office staff at least for several years if enrollment follows the expected student demand as shown in section six of the proposal.

The SEPS core classes include PHYS 131, PHYS 213, or PHYS 313 with students likely to choose PHYS 131/213 for the Ethics/Policy and perhaps Bioastronautics tracks and PHYS 313 for the Engineering and Physics tracks. PHYS 131/213 has capacity for the anticipated additional SEPS enrollment. PHYS 313 is taught in sections of up to 35 students and the program will likely require at least one new section of PHYS 313 starting from year one. The SEPS core also includes PHYS 395, Solar System Astronomy. This course is currently offered annually and has sufficient capacity to meet SEPS needs.

The Physics Track of SEPS contains nine physics courses all students in this track are required to take and two electives. With the exception of PHYS 314 these are courses currently only required for Physics majors. They typically have enrollments of around ten students and thus have capacity to meet the demand initially anticipated through the SEPS program.

The SEPS program proposal includes the creation of new SEPS courses: SEPS 1XX, Intro. Space Science; SEPS 1XX, Space Science Seminar; SEPS XXX, Spacesuits; SEPS XXX Space Analogy Training. A new faculty hire will be required to create and teach these courses. The courses will need to be created up front to create the SEPS program, but much of the actual course design work will happen when the course is taught for the first time. This will happen on a rotating schedule as students start to enter the program. Thus one new hire is anticipated to meet the demand of this new program. The new tenure track, research-active faculty member will design and teach SEPS courses as well as a section of PHYS 313 each year, resulting in a full teaching load for this new hire and teaching demands for SEPS being met in full.

In summary, Physics at WSU endorses and supports the unique opportunity that presents itself in the SEPS program. A new hire in physics is required to start the program. This brings access to ubiquitous external funding sources.

Sincerely,

Holger Meyer



WICHITA STATE
UNIVERSITY

COLLEGE OF ENGINEERING

Department of
Aerospace Engineering

October 26, 2018

Dr. Carolyn Shaw
Associate Vice President
Strategic Enrollment Management
Wichita State University

Re: Letter of support for Space Engineering, Policy and Science program

Dear Dr. Shaw:

On behalf of the Aerospace Engineering department, this letter is to express strong support for the “*Space Engineering, Policy and Science*” program proposed by Drs. Amick, Dutta, Schneegurt, Schwartz and Solomey. The program is interdisciplinary, incorporating courses from three WSU academic colleges.

There exist no current programs with this specific breadth in Kansas, and only a handful exist in the United States. As a result, I am supportive of the proposal to offer AS, BS, MS and PhD degrees. Four different tracks are included in the proposal, including an engineering track that will leverage a number of courses already existing in our department (e.g., Introduction to Space Dynamics, Intermediate Space Dynamics, and Nano-satellite Engineering). The department’s Astronautics Laboratory (located in the Innovation Campus’ Experiential Engineering Building) is available to afford students with hands-on Nano-satellite related training.

To provide essential program support new AE courses are proposed, including a sophomore-level Introduction to Astronautical Engineering and a senior-level Space Propulsion course. To meet these new course, program, and research expectations at least one astronautics focused faculty hire, specifically in Aerospace Engineering, is included within the proposal as part of a University cluster hire.

Establishment of this program is important, especially considering the tremendous increase in private space ventures and the anticipated growth of the same in near future. The program will allow WSU to generate prepared graduates meeting growing industrial, government, and student needs. The program will also enhance campus research collaborations, thereby building lasting and funded partnerships.

Again, I express my strong support for the proposal. Feel free to contact me if you have a question or concerns.

Sincerely,

L. Scott Miller
Professor and Chair
Aerospace Engineering



WICHITA STATE
UNIVERSITY

FAIRMOUNT COLLEGE OF
LIBERAL ARTS AND SCIENCES

Department of Biological Sciences

October 23, 2018

SEPS Selection Committee:

Please accept this very hearty and sincere letter of support for the accompanying program proposal. I have communicated with Dr. Schneegurt about it and I can provide the following comments.

Dr. Schneegurt is working with a group of faculty members from three WSU colleges to develop new degree programs in Space Engineering, Policy, and Science (SEPS). Discussions of a Space Sciences program started last year and the group decided to formalize these plans for the competition for new interdisciplinary degree programs. The current plan includes AS, BS, MS, and PhD plans of study that meet a growing industrial sector where opportunities exist at several levels of technical expertise.

The current plan will offer the BS in several concentrations, including bioastronautics. Biological Sciences would contribute new courses specific to this track, including Astrobiology, and existing courses such as Microbiology (330). The degree programs include required courses across the disciplines. General Biology (210/211) and Anatomy and Physiology (223 or 534) will be required of all SEPS students.

The program is remarkably interdisciplinary, incorporating courses from every academic college at WSU, and will be housed in Physics. Our department supports the creation of the SEPS program in principle. We are aware that at least one faculty hire in Biological Sciences, specifically astrobiology or a related area, is included in the proposal as part of a cluster hire. The working group also has created the Wichita Space Initiative (WSI) to further collaboration across colleges by those interested in every aspect of space sciences, engineering, and policy.

There are no current programs with this breadth of disciplines in Kansas and few exist in the US. Meanwhile, investment in private space ventures is growing exponentially. WSU can generate the trained graduates to meet growing industrial and government needs, while increasing collaborative research funding on campus, and building lasting partnerships across divisions. Lastly, this initiative clearly fits very well with the institution's ongoing Innovation Campus agenda.

Sincerely,

A handwritten signature in black ink, appearing to read 'W. J. Hendry'.

William J. Hendry, PhD

Professor and Chair

phone: 316-978-6086

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<http://webs.wichita.edu/biology/whendry>



Department of Philosophy
Fairmount College of Liberal Arts & Sciences
www.wichita.edu/philosophy

October 24, 2018

To Whom It May Concern,

I am writing this letter in my capacity as chair of the Philosophy Department to express my enthusiastic support for the proposal contained herein to establish a Space Engineering, Policy, and Science (SEPS) program at WSU. This proposal is in keeping both with the letter and spirit of the institution's strategic goals of expanding inter-disciplinary opportunities for students and researchers, of opening new revenue streams for the university from government and industry sources, and of providing workforce training for the 21st Century. As you can see from this proposal, philosophy is set to play an integral role in the SEPS program not only in the Policy track, but in the Core component as well.

This program would be the first of its kind in Kansas, thereby distinguishing WSU from the other Regents institutions, and it is in keeping with Wichita's strong aerospace culture. The proposal has a lot of merit.

Respectfully Submitted,



Dr. Jeffrey Hershfield, Chair
Department of Philosophy



WICHITA STATE
UNIVERSITY

FAIRMOUNT COLLEGE OF
LIBERAL ARTS AND SCIENCES

Department of Political Science

Interdisciplinary Program Prize Selection Committee:

Dr. Schwartz is working with a group of faculty members from three WSU colleges to develop new degree programs in Space Engineering, Policy, and Science (SEPS). Discussions of a Space Sciences program started last year and the group decided to formalize these plans for the competition for new interdisciplinary degree programs. The current plan includes AS, BS, MS, and PhD plans of study that meet a growing industrial sector where opportunities exist at several levels of technical expertise.

The current plan will offer the BS in several concentrations, including Ethics and Policy. Political Science would contribute to this track, with required courses including American Politics (POLS 121), Introduction to International Relations (POLS 220), Political Research Methods (POLS 336), and Lobbyists and Interest Groups (POLS 390F). All of these courses are part of our department's existing curricular plan, and will be offered regularly.

Our department supports the creation of the SEPS program in principle, and believe that it would serve the students and mission of WSU.

Thank you for your consideration.

A handwritten signature in cursive script that reads "Neal Allen".

Neal Allen, Ph.D.
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