KANSAS BOARD OF REGENTS
ACADEMIC AFFAIRS STANDING COMMITTEE

CONFERENCE CALL AGENDA
June 3, 2019
11:30 am

CONFERENCE CALL INFORMATION
DIAL: 785-422-6104
CONFERENCE CODE: 96342619

I. Call To Order *Regent Murguia*

II. Agenda Planning for June 19th Board Meeting

A. Consent Agenda

1. Request Approval for Bachelor of Arts in Environmental Geoscience at Fort Hays State University — *Jean Redeker* — *p. 2*
2. Request Approval for Bachelor of Science in Environmental Engineering at Kansas State University — *Jean Redeker* — *p. 8*

B. Discussion Agenda

1. Update on 2017 Board Goal: Qualified Admissions — *Jean Redeker* — *p. 16*

III. Next BAASC Meeting - June 19th at 11:00 am

A. Draft Agenda for June 19th

1. Approve Minutes from May 15th and June 3rd meetings
2. Introduction of Incoming Vice President for Academic Affairs
3. Follow up on June 3rd agenda items
   - Update on 2017 Board Goal: Qualified Admissions
4. Other Matters
   - Credit for Prior Learning Update
   - Reverse Transfer Update
   - Receive Information on Inter-Institutional Memorandum of Understanding of Clinical Affiliation Site Cooperation

IV. Adjourn

Board Academic Affairs Standing Committee
Meeting Schedule

Meeting Dates	Location	Time	Agenda Materials Due
June 19, 2019	Topeka	11:00 am	May 31, 2019

***Tentative* AY 2019-2020 Meeting Schedule**

Meeting Dates	Location	Time	Agenda Materials Due
September 3, 2019	Conference Call	11:30 am	August 19, 2019
September 18, 2019	Topeka	10:30 am	August 30, 2019

New Program Summary

Fort Hay State University

Bachelor of Arts in Environmental Geoscience

Summary

Universities may apply for approval of new academic programs following the guidelines in the Kansas Board of Regents Policy Manual. Fort Hays State University has submitted an application for approval and the proposing academic unit has responded to all of the requirements of the program approval process. Board staff concurs with the Council of Presidents and the Council of Chief Academic Officers in recommending approval. June 3, 2019

Program Approval

I. General Information

A. Institution Fort Hays State University

B. Program Identification

Degree Level:	Baccalaureate Program
Program Title:	Environmental Geoscience
Degree to be Offered:	Bachelor of Arts
Responsible Department or Unit:	Department of Geosciences
CIP Code:	40.0601
Modality:	Hybrid
Proposed Implementation Date:	Fall 2019

Total Number of Semester Credit Hours for the Degree: 120

II. Justification

Fort Hays State University is proposing a Bachelor of Arts in Environmental Geoscience degree. Geoscientists tackle some of society's most challenging problems (AGI), including:

- Predicting the behavior of earth systems and understanding global climate patterns;
- Locating, maintaining, and conserving quality water supplies and other natural resources;
- Exploring geographic controls on natural environments and habitats and predicting the impact of human activities on them; and
- Reducing human suffering and property loss from natural hazards, such as volcanic eruptions, earthquakes, floods, landslides, hurricanes, tornadoes, and tsunamis.

Geoscientists work to collect and interpret data about the Earth's soil, oceans, and atmosphere; educate others; provide essential information for resource management and governmental policies; and improve public health, safety, and welfare. This Geoscience program offers students multiple opportunities to employ important analytical, problem-solving, and critical thinking skills toward researching, evaluating statistical data, writing reports, and effectively communicating findings.

FHSU currently offers a hybrid (on-campus and online) Bachelor of Science in Geosciences degree, but the Geology emphasis of this degree requires several lab- and field-based courses that are not developed for online offering. Also, students must complete an intensive, three-week field camp during the summer session that often deters some students with disabilities or with personal/family obligations from being away for three weeks. The enrolled or potential geoscience students who have expressed interest in online options typically seek out programs elsewhere that are more conducive to their personal schedules and restrictions; hence, FHSU is losing

students whom we could be serving. This degree program is designed to provide for this group of students who wish more flexibility in the academic delivery.

In addition to the online convenience of this B.A. program, a major distinction of this degree is the ten-semester credit hour requirement of a foreign-language component that serves to replace the field-camp experience in the B.S. degree. Geoscience graduates with an additional language will possess an invaluable skill that can prove beneficial in academia and in environmental fields.

III. Program Demand: Market Analysis

In a report completed in 2017, Hanover Research provided an overview of the potential market for environmental science/studies programs. Nationally, baccalaureate degree completions in environmental science/studies-related fields indicate growing student demand (Figure 1).

Figure 1: Numbers of Bachelor's Degree Completions in Fields Related to Environmental Science/Studies (Nationally 2011-2015)

FIELD	2011	2012	2013	2014	2015
Natural Resources/ Conservation, General	1,355	1,477	1,448	1,425	1,346
Environmental Studies	4,806	5,741	6,629	6,560	6,680
Environmental Science	3,808	4,533	5,373	5,734	5,928
Natural Resources Conservation Research	6	33	29	31	52
Combined	**9,975**	**11,784**	**13,479**	**13,750**	**14,006**

Source: IPEDS

Both *Environmental Studies* and *Environmental Science* experienced strong, steady growth from 2011 to 2015; these programs reported the highest number of completions among the identified fields.

All KBOR universities offer at least some courses in geology and/or environmental geosciences and some offer face-to-face degrees, but none of them offer online degrees in these areas. The only institutions offering online bachelor's degrees in geosciences or geology are University of Florida, Southern New Hampshire University, and Chadron State College (Nebraska). Park University (Missouri) offers a minor in geosciences online. Due to the challenges of creating online labs and field courses, geosciences programs have been slow to move online. Even universities with large online offerings and well-known geosciences programs (e.g., Arizona State University, Penn State University, Purdue University) have yet to offer bachelor's degrees online. Thus, there is a niche to fill regionally and nationally.

IV. Projected Enrollment for the Initial Three Years of the Program

Year	Headcount Per Year		Sem Credit Hrs Per Year	
	Full- Time	Part- Time	Full- Time	Part- Time
Implementation	5	5	150	75
Year 2	10	10	450	225
Year 3	20	20	1050	525

V. Employment

Heightened public interest in the hazards facing the environment, as well as increasing demands placed on the environment by population growth, are expected to spur demand for environmental scientists and specialists. Job

projections for Environmental Engineers indicate faster than average job growth (Hanover). According to the Bureau of Labor Statistics, employment of geoscientists is projected to grow 14 percent from 2016 to 2026; the need for energy, environmental protection, and responsible land and resource management is projected to spur demand for geoscientists in the future.

According to the Kansas Department of Labor, the following occupations related to Environmental Geoscience are all expected to experience above-average growth through at least 2026:

- Environmental Scientists and Specialists: 13.0%
- Geoscientists, excluding hydrologists and geographers: 10.8%
- Geological and Petroleum Technicians: 15.7%
- Environmental Science and Protection Technicians: 11.8%

VI. Admission and Curriculum

A. Admission Criteria

Complete the Kansas Qualified Admissions Pre-College Curriculum with a minimum grade point average of 2.0 (2.5 for non-residents) on a 4.0 scale **AND m**eet one of the following requirements:

- ACT composite score of 21 or above (SAT 980 or above) **OR**
- Rank in the top 1/3 of high school's graduating class

There are no additional admission standards for the program. Students accepted to Fort Hays State University will be eligible for the program.

B. Curriculum: B.A. Environmental Geoscience ……...……. 120 Semester Credit Hours (SCH)

Freshman Year			
Fall Semester	**SCH**	**Spring Semester**	**SCH**
ENG 101 … English Composition I	3	ENG 102 … English Composition II	3
MATH 110 … College Algebra	3	GSCI 100 … Intro to Geology	3
PHSY 102 … Physical Science	4	GSCI 102 … Intro to Geology Lab	1
Foreign Language	5	MATH 331 … Calculus Methods	3
		Foreign Language	5
Total	**15**	**Total**	**15**
Sophomore Year			
Fall Semester	**SCH**	**Spring Semester**	**SCH**
GSCI 240 … Intro Geographic Info Syst	3	GSCI 360 … Intermediate Geog Info Syst	3
INF 101 … Intro to Computer Info Syst	3	HHP 200 … Personal Wellness	3
GSCI 101 … Physical Geography	3	COMM 100 … Fund Oral Communication	3
ENG 125 … World Literature	3	GSCI 110 … World Geography	3
BIOL 200 Humans & Environment	3	CHEM 100 … Chemist's View of the World	3
Total	**15**	**Total**	**15**
Junior Year			
Fall Semester	**SCH**	**Spring Semester**	**SCH**
AGRI 321 … Agricultural Law & Policy	3	IDS 407 … Global Challenges	3
GSCI 600 … Kansas Geography	3	GSCI 330 … Urban Geography	3
GSCI 635 … Advanced Geog Info Syst	3	*Humanities Elective*	3
Social Science Elective	3	*Humanities Elective*	3
Humanities Elective	3	*Social Science Elective*	3
Total	**15**	**Total**	**15**

Senior Year			
Fall Semester	**SCH**	**Spring Semester**	**SCH**
GSCI 321 … U.S. Geography	3	GSCI 340 … Environmental Geology	3
GSCI 695 … Internship in Geography	3	IDS 499 … Global Environmental Issues	3
GSCI 330 … Remote Sensing Concepts	3	GSCI 355 … Field Trips in Geology	1
GSCI 350 … Geologic Hazards	3	*Social Science Elective*	3
GSCI 630 … Geostatistics	3	GSCI 674 … Remote Sensing	3
GSCI 651 … Field Study in Geography	1	GSCI 355 … Field Trips in Geology	1
Total	**16**	**Total**	**14**

Note: All courses are either currently available online or will be developed for online instruction.
Total Number of Semester Credit Hours …… **120**

VII. Core Faculty FTE: 1.0 FTE = Full-Time Equivalency Devoted to Program

Faculty Name	Rank	Highest Degree	Tenure Track Y/N	Academic Area of Specialization	FTE to Proposed Program
Agbogun, Henry	Asst. Prof.	PhD	N	Geology	0.5
Ali, Hendratta	Assoc. Prof	PhD	Y	Geology	0.75
Bremer, Keith	Asst. Prof.	PhD	Y	Geography	0.25
Lisichenko, Richard	Professor	PhD	Y	Geography	0.5
Schafer, Thomas	Assoc. Prof	PhD	Y	Geography	0.25
Sumrall, Jonathon	Asst. Prof.	PhD	Y	Geology	0.5
Wilson, Laura	Assoc. Prof	PhD	Y	Geology	0.25

Number of graduate assistants assigned to this program …… **0**

VIII. Expenditure and Funding Sources *(List amounts in dollars. Provide explanations as necessary.)*

A. EXPENDITURES	First FY	Second FY	Third FY
Personnel – Reassigned or Existing Positions			
Faculty	$44,413	$45,301	$46,207
Administrators *(other than instruction time)*	$0	$0	$0
Graduate Assistants	$0	$0	$0
Support Staff for Administration (*e.g., secretarial*)	$0	$0	$0
Fringe Benefits *(total for all groups)*	$14,744	$14,904	$15,067
Other Personnel Costs	$0	$0	$0
Total Existing Personnel Costs – Reassigned or Existing	$59,157	$60,205	$61,274

Personnel – – New Positions			
Faculty			
Administrators *(other than instruction time)*			
Graduate Assistants			
Support Staff for Administration (*e.g., secretarial*)			
Fringe Benefits *(total for all groups)*			
Other Personnel Costs			
Total Existing Personnel Costs – New Positions	$0	$0	$0
Start-up Costs - - One-Time Expenses			
Library/learning resources			
Equipment/Technology			
Physical Facilities: Construction or Renovation			
Other	$6,000*	$6,000*	
Total Start-up Costs	$6,000	$6,000	$0
Operating Costs – Recurring Expenses			
Supplies/Expenses			
Library/learning resources			
Equipment/Technology			
Travel			
Other			
Total Operating Costs	$0	$0	$0
GRAND TOTAL COSTS	$65,157	$66,205	$61,274

B. FUNDING SOURCES *(projected as appropriate)*	Current	First FY (New)	Second FY (New)	Third FY (New)
Tuition / State Funds	$0	$52,480	$104,962	$209,923
Student Fees	$0	$0	$0	$0
Other Sources	$0	$0	$0	$0
GRAND TOTAL FUNDING	$0	$52,480	$104,962	$209,923
C. Projected Surplus/Deficit (+/-) (Grand Total Funding *minus* Grand Total Costs)		(-$12,677)	$38,757	$148,649

IX. Expenditures and Funding Sources Explanations

A. Expenditures

Personnel – Reassigned or Existing Positions

The proposed program utilizes existing personnel and existing courses. There are no new expenses realized per instructional faculty. If the proposed program were not delivered, there would be no cost savings to the institution. For the purpose of this proposal, personnel expenditures are based on the percentage of each faculty member's FTE commitment to the coursework (indicated in Section VII) included in the program and an estimate of the percentage of the already existing course that would be populated with new students. That percentage was established at 25% given that, based on enrollment estimations, the new students would make up approximately 25% of the total number of current majors. Annual changes in salary are based on a 2% increase.

Personnel – – New Positions

No new positions are necessary to support this proposal.

Start-up Costs – One-Time Expenses

One-time expenses will consist of the need to develop four courses for online delivery over a two-year period. Faculty who develop courses for online delivery are remunerated at a rate of $3,000 for a 3 semester credit hour course. There will be an expense of $6,000 in year one and $6,000 in year two. This expense is already part of a budget for course development in Center for Teaching Innovation and Learning Technology.

Operating Costs – Recurring Expenses

No new operating costs or recurring expenses will be necessary to support this proposal.

B. Revenue: Funding Sources

The program will be supported by the base tuition generated. No other funding sources will be necessary. Tuition is based on the Virtual College tuition rate of $218.67 per semester credit hour.

C. Projected Surplus/Deficit

As proposed, the program will realize a deficit of approximately $13,000 in year one and then realize an increasing surplus as enrollment patterns mature. While a deficit is indicated in year one, there is no real revenue loss to the institution as the courses are already being offered as part of other academic programs and are budgeted for the academic year already.

X. References

Hanover Research Report. (2017). *Market Analysis: 4+1 Program in Environmental Studies/Sciences.*

Kansas Department of Labor. (2019). *Kansas 10 Year Job Outlook 2016-2026*. Retrieved from: https://klic.dol.ks.gov/gsipub/index.asp?docid=743

AGI. (2019). American Geosciences Institute. Connecting earth, science, and people. Retrieved from: https://www.americangeosciences.org/

Bureau of Labor Statistics, U.S. Department of Labor. (2019). *Occupational Outlook Handbook, February 2019: Environmental Scientists and Specialists*. Retrieved from: https://www.bls.gov/ooh/life-physical-and-social-science/environmental-scientists-and-specialists.htm

Bureau of Labor Statistics, U.S. Department of Labor. (2019). *Occupational Outlook Handbook, February 2019: Geoscientists*. Retrieved from: https://www.bls.gov/ooh/life-physical-and-social-science/geoscientists.htm

IPEDS. (2019). National Center for Education Statistics. Retrieved from: https://nces.ed.gov/ipeds/

New Program Summary

Kansas State University

Bachelor of Sciences in Environmental Engineering

Summary

Universities may apply for approval of new academic programs following the guidelines in the Kansas Board of Regents Policy Manual. Kansas State University has submitted an application for approval and the proposing academic unit has responded to all of the requirements of the program approval process. Board staff concurs with the Council of Presidents and the Council of Chief Academic Officers in recommending approval. *June 3, 2019*

Program Approval

I. General Information

A. Institution Kansas State University

B. Program Identification

Degree Level:	Bachelor's Program
Program Title:	Environmental Engineering
Degree to be Offered:	Bachelor of Science in Environmental Engineering
Responsible Departments:	College of Engineering: Biological and Agricultural Engineering Department and Civil Engineering Department
Modality:	Face-to-Face
CIP Code:	14.1401
Proposed Implementation Date:	Fall 2019

Total Number of Semester Credit Hours for the Degree: 126

II. Justification

Environmental engineers use engineering and other scientific principles to solve complex environmental problems. They may be involved in recycling efforts, waste management, public health initiatives, water quality management, and pollution control work. As environmental problems continue to develop, environmental engineers are increasingly called upon to create innovative solutions to sustain our planet.

This program would provide an undergraduate degree for students interested in protecting the environment and developing sustainable engineered solutions for water, air, and soil resources. The program will prepare students to:

- apply mathematical and scientific principles to the design, development, and operational evaluation of systems for controlling contained living environments; and
- monitor and control factors in the external natural environment, including pollution, waste, hazardous materials, health and safety protections, and conservation.

Environmental engineers may work in a wide variety of fields, leading to multiple employment opportunities in government, consulting, and industry. Due to the breadth of this field, environmental engineers may be called to work on any number of projects impacting the environment from air pollution control to wastewater treatment to ecosystem restoration in the state of Kansas and around the globe.

III. Program Demand: Market Analysis

The College of Engineering commissioned a market analysis by Hanover Research (2016) to assess the potential of an environmental engineering program. Key findings from the report include:

- **Trends indicate sufficient demand to support a Bachelor of Science in environmental engineering program at Kansas State University**. Strong degree completions, favorable occupational projections, and low competitor saturation in the region point to a promising environment for such a degree. No environmental engineering bachelor's programs are currently offered in Kansas.
- **Multiple indicators suggest growing student demand for bachelor's degree programs in environmental engineering.** In the last five years, national demand for environmental engineering degrees increased over 16 percent at an annualized rate, and regional demand by 18 percent at an annualized rate.
- **Environmental engineering graduates have promising job prospects over the next decade, nationally, regionally, and in Kansas.** Occupational projections forecast 6 percent employment growth for environmental engineering professions nationally and nearly 15 percent in Kansas. Furthermore, environmental issues facing the region are likely to contribute to greater demand for environmental engineers.
- **Regional competitive saturation for bachelor's degree programs in environmental engineering is low.** Thirteen institutions, many located in Colorado, offer this bachelor's program. Also, the Missouri University of Science and Technology and the University of Oklahoma both offer a B.S. degree in Environmental Engineering.
- **Several partnership opportunities with local schools, organizations, and programs exist for KSU to build community recognition for the proposed environmental engineering program.** Programs such as Project Lead the Way, the National Science Foundation, and Kansas City STEM Alliance present opportunities to interact with local K-12 students, families, and teachers to increase interest in environmental engineering and create potential pathways to enrollment at K-State.

IV. Projected Enrollment for the Initial Three Years of the Program

Year	Headcount Per Year		Sem Credit Hrs Per Year	
	Full- Time NEW	Part- Time NEW	Full- Time	Part- Time
Implementation	24	---	768	---
Year 2	30	---	1,728	---
Year 3	40	---	3,308	---

V. Employment

The U.S. Department of Labor, Bureau of Labor Statistics reported 53,800 environmental engineering jobs in 2016 (BLS). As of May 2017, the average annual salary for environmental engineers was $91,180 (BLS), up from $82,890 in 2012 (Environmental Science). The Bureau of Labor Statistics also reports a projected growth of 8% (4,500 jobs) between 2016 and 2026. Expected growth is related to state and local governments' concerns regarding water availability and quality, both issues of significance in Kansas. Environmental engineering graduates would play a significant role in assisting Kansas realize the Kansas Water Vision, a 50-year framework developed to manage, secure, and protect the Kansas water supply (Kansas Water Office).

Since 2012, 28% of environmental engineers work in architectural, engineering, and related services; 26% work in some level of government; 21% are employed in scientific and technical services (Environmental Science).

VI. Admission and Curriculum

A. Admission Criteria

Students who are admitted to Kansas State University and who indicate a College of Engineering degree program as their primary program choice are then evaluated by the College of Engineering Office of Student Services for entry to one of the colleges degree programs. The basic criteria for the College of Engineering requires that prospective students must have

- an ACT score of 21 (or an SAT of 980), plus
- a high school GPA of 3.00 or higher.

Note: Students who have been admitted to K-State and who do not meet these criteria are advised to enroll in "Open Option" through the College of Arts and Sciences and to follow a suggested pre-engineering pathway.

B. Curriculum

Year 1: Fall **SCH = Semester Credit Hours**

Course #	Course Name	SCH 15
MATH 220	Analytic Geometry and Calculus I	4
CHM 210	Chemistry I	4
ECON 110	Principles of Macroeconomics	3
ENVE 101	Introduction to Environmental Engineering	1
ENGL 100	Expository Writing I	3

Year 1: Spring

Course #	Course Name	SCH 17
BIOL 198	Principles of Biology	4
CHM 230	Chemistry II	4
COMM 105	Public Speaking 1A	2
MATH 221	Analytic Geometry and Calculus II	4
Elective	Humanities and Social Sciences Elective	3

Year 2: Fall

Course #	Course Name	SCH 15
CHM 350	General Organic Chemistry	3
MATH 222	Analytic Geometry and Calculus III	4
PHYS 213	Engineering Physics I	5
Elective	Earth Science Elective	3

Year 2: Spring

Course #	Course Name	SCH 17
BAE 345	Biological Materials	2
BAE 346	Biological Materials Lab	1
CE 530	Statics and Dynamics	3
IMSE 530	Engineering Economics Analysis	2
MATH 240	Elementary Differential Equations	4
PHYS 214	Engineering Physics II	5

Year 3: Fall

Course #	Course Name	SCH 15
STAT 510	Introduction to Probability and Statistics	3
BAE 445 **OR** CE 563 **OR**	Biological Engineering Fundamentals Environmental Engineering Fundamentals	3

CHE 320	Chem Process Analysis	
ME 513 **OR** CHE 520	Thermodynamics Chemical Engineering Thermodynamics I	3
ME 571 **OR** CHE 530	Fluid Mechanics Transport Phenomena I	3
CE 202 **OR** GEOG 508	Civil Engineering Graphics Geographic Information Systems I	3

Year 3: Spring

Course #	Course Name	SCH 17
ENVE 331	Professional Practice in Environmental Engineering	1
BAE 645 **OR** CHE 550	Bio-Environmental Reaction Engineering Chemical Reaction Engineering	3
EECE 519	Electrical Circuits and Control	4
BAE 663	Environmental and Ecological Risk Assessment	3
BAE 560 **OR** CE 550	Hydrology for Biological Systems Water Resources Engineering	3
Elective	Biological Science Elective	3

Year 4: Fall

Course #	Course Name	SCH 15
ENVE 536	Senior Design	3
BAE 643	Life Cycle Assessment	3
ENGL 415	Written Communication for Engineers	3
BAE 660 **OR** CE 552	Hydraulic Transport in Biological Systems Hydraulic Engineering	3
Elective	Technical Elective	3

Year 4: Spring

Course #	Course Name	SCH 15
Elective	Restricted Environmental Engineering Elective	3
Elective	Restricted Environmental Engineering Elective	3
Electives	Technical Electives	6
Elective	Humanities and Social Science Elective	3

Total Number of Semester Credit Hours ……. 126

VII. Core Faculty FTE: 1.0 FTE = Full-Time Equivalency Devoted to Program

Faculty Name	Rank	Highest Degree	Tenure Track Y/N	Academic Area of Specialization	FTE to Proposed Program
Hutchinson, Stacy *Program Director*	Professor	Ph.D.	Y	Ecolog Engr/Water Res Engr	0.5
Im, Jeongdae	Asst. Professor	Ph.D.	Y	Environmental Biotechnology	0.1
Maghirang, Ronaldo	Professor	Ph.D.	Y	Air Quality	0.125
Marsten, Landon	Asst. Prof.	Ph.D.	Y	Water Resources	0.125

Moore, Trisha	Asst. Prof.	Ph.D.	Y	Ecological Engineering	0.125
Parameswaran, Prathap	Asst. Prof.	Ph.D.	Y	Environmental Engineering	0.125
Sheshukov, Aleksey	Assoc. Prof.	Ph.D.	Y	Water Resources	0.125
Wilken, Lisa	Assoc. Prof.	Ph.D.	Y	Biological Engineering	0.375
Brokesh, Edwin	Instructor	Ph.D.	N	Agricultural Engineering	0.25

Number of graduate assistants assigned to this program …… **3**

VIII. Expenditure and Funding Sources

A. EXPENDITURES	First FY	Second FY	Third FY
Personnel – Reassigned or Existing Positions			
Faculty	$ 60,771	$ 130,202	$ 162,045
Administrators *(other than instruction time)*	$ 28,399	$ 28,967	$ 29,535
Graduate Assistants	$ 19,500	$ 39,967	$ 60,840
Support Staff for Administration (*e.g., secretarial*)	$ 12,000	$ 12,240	$ 12,480
Fringe Benefits *(total for all groups)*	$ 33,184	$ 58,077	$ 72,847
Other Personnel Costs			
Total Existing Personnel Costs – Reassigned or Existing	$ 153,854	$ 269,453	$ 337,747
Personnel – – New Positions			
Faculty			
Administrators *(other than instruction time)*			
Graduate Assistants			
Support Staff for Administration (*e.g., secretarial*)			
Fringe Benefits *(total for all groups)*			
Other Personnel Costs			
Total Existing Personnel Costs – New Positions	$ 0	$ 0	$ 0
Library/learning resources			
Equipment/Technology			
Physical Facilities: Construction or Renovation	$ 400,000		
Other			
Total Start-up Costs	$ 400,000		
Operating Costs – Recurring Expenses			
Supplies/Expenses	$ 3,840	$ 8,812	$ 15,641
Library/learning resources			
Equipment/Technology	$ 7,680	$ 17,625	$ 31,283
Travel			
Other			
Total Operating Costs	$ 11,520	$ 26,437	$ 46,924
GRAND TOTAL COSTS	$ 565,374	$ 295,890	$ 384,671

B. FUNDING SOURCES *(projected as appropriate)*	Current	First FY (New)	Second FY (New)	Third FY (New)
Tuition / State Funds		$ 240,000	$ 550,800	$ 977,600
Student Fees		$ 71,424	$ 163,918	$ 290,933
Other Sources				
GRAND TOTAL FUNDING		$ 311,424	$ 714,718	$ 1,268,533
C. Projected Surplus/Deficit (+/-) (Grand Total Funding *minus* Grand Total		(-$ 253,950)	$ 418,828	$ 883,862

IX. Expenditures and Funding Sources Explanations

A. Expenditures

Personnel – Reassigned or Existing Positions

All faculty are currently employed in the College of Engineering. The percent time dedicated to the program varies by faculty and the courses taught each year. A modest pay increase was included for each year. Administrator: Dr. Stacy Hutchinson is also the director/administrator for the program, which is a .25 appointment. Thus, 25% of her pay is shown in the Administrator line under Personnel – Reassigned or Existing Positions.

Also, Dr. Im will not be teaching any required classes for the program. He has assisted with the design of the program and will serve as an advisor for students in the program. Therefore, he is listed as 0.1 FTE for the first three years. Those faculty teaching courses in the program are shown as .125 FTE per course taught.

Regarding the total FTE of 1.85: the majority of the courses in the new program are existing courses taught in engineering or in one of the two home departments - - Civil Engineering and Agricultural and Biological Engineering. The eight faculty members who will teach major and elective courses for the program are also teaching in their home departments, thus only the portion of their teaching assignment relative to the Environmental Engineering program is shown above.

Personnel – – New Positions

No new positions are projected to begin the program.

Start-up Costs – One-Time Expenses

We are requesting a one-time cost for laboratory upgrades to develop the Bio-Environmental Systems Teaching (BEST) Learning Center. Transformation in engineering education seeks new ways to improve experiential learning through active learning and/or hands-on laboratory exercises. The BEST Learning Center will enhance the department of Biological and Agricultural Engineering's educational programs through creation of an innovative learning-centered environment with eight fully equipped teaching laboratory workstations and an active learning studio for collaborative work and team-based projects. The space will feature modern laboratory equipment and flexible classroom seating. Total estimated cost: $400,000.

Operating Costs – Recurring Expenses

Operating costs for supplies and equipment/technology are based on student credit hours at the rates of $5.00/sch for supplies/expenses and $10.00/sch for equipment/technology.

B. Revenue: Funding Sources

30 SCH/YR	Tuition/SCH	YR 1	Sub-totals	YR 2	Sub-totals	YR 3	Sub-totals
In-state	$ 313	768	$ 240,000	1728	$ 550,800	3008	$ 977,600
COE Fees*	$ 93	728	$ 71,424	1728	$ 163,918.08	3008	$ 290933.76
Total Revenue			$ 311,424		$ 714,918.08		$ 1,268,533.76

*COE Fees explanation: The College of Engineering has a general fee of $80 per credit hour, and a technology fee of $19 per credit hour, on all engineering classes. All funds generated from the general fee ($80 per credit hour) for courses taught in the program will be used by the College to fund the program. For the technology fee ($19), 70% or $13.30 per credit hour, is retained by the department and thus will be used to fund the program. The other 30% ($5.70 per credit hour) is retained by the College for general technology needs across the college. Therefore, only the 70% split to the department will be supporting the BS program.

C. Projected Surplus/Deficit

The costs of the BEST Learning Center will be recovered after the first year, with projections that the program will generate funds beginning in year 2.

X. References

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New Program Proposal for BS in Environmental Engineering

Justification for 126 hours

The proposed Environmental Engineering degree program has 126 credit hours. Justification to be above 120 hours is presented below.

1. The Environmental Engineering degree program is a professional degree program that is also accredited by an international accreditation agency and process (ABET). This process includes a strong general educational component, a strong foundation in mathematics and the sciences, a strong technical competency core, and program specific educational requirements. It should be noted that the K-State program is still nine hours below the national average for Environmental Engineering programs.

2. The ABET Engineering Accreditation Commission (EAC) requires at least one year of mathematics and basic science topics. The Environmental Engineering degree program has 44 hours of math and basic sciences to fulfill the ABET General Criteria as well as the Environmental Engineering degree program related criteria. It should also be noted, that due to its content, environmental engineering is much heavier in science requirements than most other engineering programs.

3. The ABET EAC requires at least 1.5 years of engineering topics to meet the minimum technical competency associated with the General Criteria. The Environmental Engineering degree program has 47 hours of engineering topics to fulfill the ABET General Criteria as well as the Environmental Engineering degree program related criteria. Some of these courses include restricted electives to allow students to focus their expertise.

4. The Environmental Engineering degree program has 17 hours that make up our General Education requirements. Many of these courses are external to the College of Engineering and are used to meet the K-State 8 general education requirements.

5. The Environmental Engineering degree program has a robust set of Student Outcomes that are linked between our national accreditation agency (ABET) and the KSU campus Student Outcomes. The various courses of the Environmental Engineering curriculum are linked to these Student Outcomes and many are used to assess and document student achievement of these outcomes.

Update on 2017 Board Goal: Qualified Admissions **Jean Redeker**

In June 2017, the Board received a report from the First Generation Taskforce recommending the Board review the Qualified Admissions criteria for entrance into a state university with a specific focus on precollege curriculum course requirements. The Board adopted the review as an AY 2018 goal and a working group was selected by the state university chief academic officers to address this Board goal. The group included university admissions officers, enrollment management personnel, and diversity and inclusion staff.

Beginning in October 2017, the eight-member working group met multiple times throughout the academic year. Their recommendations to address the Board goal dealt with introducing more flexibility for how applicants met and reported meeting the precollege curriculum requirement, using the overall cumulative GPA listed on the high school transcript instead of calculating the prescribed precollege curriculum GPA, and revising the prescribed precollege curriculum GPA to allow for variation in admission requirements based on institutional mission.

The Board approved these recommendations at its June 2018 meeting, but also asked the working group to reconvene to explore additional options to admit otherwise qualified students who may not meet the ACT requirement for qualified admissions. The working group convened multiple times through the 2019 academic year and provided final recommendations to Board staff. After consultation with the institutions by the Board's President/CEO the following recommendations are presented for action. Changes are highlighted in grey.

Current Freshmen Criteria – Under 21 *Requirements for Accredited High School Graduate*	**Proposed Changes** *Accredited High School Graduate*	
ESU, PSU, FHSU, KSU, and WSU	ESU, PSU, FHSU, and WSU	K-State
ACT: 21+ or Rank in top third of class	ACT: 21+ or Cumulative GPA of 2.25	ACT: 21+ or Cumulative GPA of 3.25
Complete Precollege Curriculum with a 2.0 GPA (Resident)/2.5 GPA (Nonresident). Curriculum consists of: -English (4 units) -Math (3 units with ACT benchmark of 22 or 4 units with one taken in senior year), -Natural Science (3 units with one unit in chemistry or physics), -Social Science (3 units) -Electives (3 units) *Note: As part of the admission application, students list each high school course taken along with the grade.*	Units (but not specific courses) are recommended; units are not required.	Units (but not specific courses) are recommended; units are not required.
2.0 cumulative GPA on any college courses taken while in high school	2.0 cumulative GPA on any college courses taken while in high school	2.0 cumulative GPA on any college courses taken while in high school

Current Freshmen Criteria – Under 21 *Requirements for Accredited High School Graduate*	**Proposed Changes** *Accredited High School Graduate*
KU	KU
Cumulative GPA of 3.25 and ACT 21+ or Cumulative GPA of 3.0 and ACT 24+	Cumulative GPA of 3.25 and ACT 21+ or Cumulative GPA of 3.0 and ACT 24+
Complete the Precollege Curriculum as described above	Units (but not specific courses) are recommended; units are not required.
2.0 cumulative GPA on any college courses taken while in high school	2.0 cumulative GPA on any college courses taken while in high school

The primary difference in the current and proposed criteria include the addition of an option for admission based on an applicant's cumulative high school GPA for five state universities. Because the cumulative GPA is proposed as an admission criterion for these five institutions, requiring and tracking certain units for the precollege curriculum is duplicative leading the precollege curriculum to be recommended, but not required.

Specific differences in the cumulative GPA requirement exist with K-State recommending a cumulative GPA of 3.25 for admission, and the comprehensive and urban serving institutions recommending a 2.25. This difference reflects differences in mission and types of students served.

Many universities offer a test-optional admission criterion because numerous studies show that doing so increases the number of first-generation, minority, and rural students attending college. These same studies show that high school grades are a strong predictor of undergraduate performance. In addition, requiring a test as a condition for admission may exclude otherwise qualified applicants who do not meet the test score requirement.

KU continues with its current admission criteria of a combined requirement of an ACT score and cumulative GPA, but is recommending the precollege curriculum become optional for reasons outlined earlier

Recommendation
Staff recommends approval of the proposed admission criteria. The proposed changes support the First Generation Taskforce's goal of removing barriers for first generation student and the Board's desire to provide additional options to admit otherwise qualified students who may not meet the ACT requirement for qualified admissions. This desire was based on the commitment made by the 2018 Legislature to pay for statewide testing of every high school junior using ACT, Inc. assessments.

The recommendations also achieve the Board's goal of simplifying the admissions process to help all students by focusing on the cumulative GPA instead of specific high school courses. This shortens the application process because students do not have to list each high school taken along with the grade.