KANSAS BOARD OF REGENTS
COUNCIL OF CHIEF ACADEMIC OFFICERS

VIRTUAL MEETING AGENDA
Wednesday, June 11, 2025
9:00 a.m. – 10:00 a.m.
or upon adjournment of SCOCAO

The Council of Chief Academic Officers (COCAO) will meet virtually via Zoom. An in-person option will be available at the Curtis State Office Building at 1000 SW Jackson, Suite 530, Topeka, Kansas, 66612.

I.	**Call to Order**	Susan Bon, Chair	
	A. Roll Call & Introductions		
	B. Approve Minutes from May 14, 2025		p. 3
II.	**Council of Faculty Senate Presidents Update**	Rochelle Rowley, ESU	
III.	**First Reading**		
	No Items		
IV.	**Second Reading**		
	A. MS in Computational Biology	Barbara Bichelmeyer, KU	p. 5
	B. BS in Statistics	Barbara Bichelmeyer, KU	p. 14
V.	**Other Matters**		
	A. Academic Affairs Updates	Academic Affairs Staff	
	B. Discuss Opportunities (new degree programs, partnerships, strategic initiatives, etc.) that Universities are Considering or Planning to Pursue in the Future	COCAO Members	
VI.	**Announcements**		
	Next COCAO Meeting – September 2025		
VII.	**Adjournment**		

COUNCIL OF CHIEF ACADEMIC OFFICERS

The Council of Chief Academic Officers (COCAO), established in 1969, is composed of the academic vice presidents of the state universities. The Board's Vice President for Academic Affairs serves as an ex officio member, and the member from the same institution as the chairperson of the Council of Presidents serves as chairperson of the Council of Chief Academic Officers. The chief academic officers of the University of Kansas Medical Center and Washburn University are authorized to participate as non-voting members when agenda items affecting those institutions are to be considered. The Council of Chief Academic Officers meets monthly and reports to the Council of Presidents. The Council of Chief Academic Officers works with the Board Academic Affairs Committee through the Vice President for Academic Affairs. Membership includes:

Jesse Mendez	K-State	Susan Bon, Chair	PSU
Brent Thomas	ESU	John Fritch	Washburn
Jill Arensdorf	FHSU	Monica Lounsbery	WSU
Barbara Bichelmeyer	KU	Rusty Monhollon	KBOR
Robert Klein	KUMC		

Council of Chief Academic Officers

AY 2025 Meeting Schedule

COCAO Academic Year 2024- 2025 Meeting Dates			
Meeting Dates	**Location (virtual or in-person)**	**Institutional Materials Due**	**New Program Requests Due**
September 18, 2024	Virtual	August 28, 2024	July 24, 2024
November 20, 2024	Kansas State University	October 30, 2024	September 25, 2024
December 18, 2024	Virtual	November 25, 2024	October 21, 2024
January 15, 2025	Virtual	December 24, 2024	November 19, 2024
February 12, 2025	Virtual	January 22, 2025	December 18, 2024
March 12, 2025	Virtual	February 19, 2025	January 15, 2025
April 16, 2025	Pittsburg State University	March 26, 2025	February 19, 2025
May 14, 2025	Virtual	April 23, 2025	March 19, 2025
June 11, 2025	Virtual	May 21, 2025	April 16, 2025

COCAO meets at 9:00 a.m. or upon adjournment of SCOCAO unless otherwise noted.

KANSAS BOARD OF REGENTS
COUNCIL OF CHIEF ACADEMIC OFFICERS
MINUTES
MAY 14, 2025

The May 14, 2025, meeting of Council of Chief Academic Officers was called to order by chair Susan Bon at 9:10 a.m. The meeting was held virtually through Zoom, with an in-person option available in Suite 530, located in the Curtis State Office Building, 1000 S.W. Jackson, Topeka, KS 66612

MEMBERS PRESENT:

Jesse Mendez, KSU	Barbara Bichelmeyer, KU	John Fritch, Washburn
Brent Thomas, ESU	Robert Klein, KUMC	Monica Lounsbery, WSU
Jill Arensdorf, FHSU	Susan Bon, PSU	Rusty Monhollon, KBOR (*ex officio)*

APPROVAL OF MINUTES

Jill Arensdorf moved that the minutes of the April 16, 2025, meeting be approved. Monica Lounsbery seconded, and the motion carried unanimously.

COUNCIL OF FACULTY SENATE PRESIDENTS UPDATE

Council of Faculty Senate Presidents Chair Norman Philipp provided an update on the Tuition Assistance Program proposal. Data on projected funding is still being compiled to provide clarity as requested by COBO and COCAO. The specific numbers being reviewed are the projected number of seats and the projected dollar value per campus. An update will be presented in June and potentially at the start of the new academic year. Currently, six out of seven institutions will submit nominees for the Faculty and Staff of the Year Award. One institution is still finalizing its criteria and should submit nominees for AY26.

FIRST READING

MS IN COMPUTATIONAL BIOLOGY - KU

Barbara Bichelmeyer shared an overview of the proposal for an MS in Computational Biology. KU offers a doctoral program in Computational Biology. This doctoral program is the only program in the College of Liberal Arts and Sciences with no corresponding master's program as a stair-step. She introduced Professor Joanna Slusky, who provided an overview of the program. She shared that this program would offer students a broader range of options in this growing field.

BS IN STATISTICS – KU

Barbara Bichelmeyer introduced Department Chair of Mathematics Mat Johnson, who shared an overview of the proposal for the BS in Statistics. This program is expected to give students an explicitly marketable interdisciplinary degree that will enable them to advertise their specialized skillset to potential employers more than a general mathematics degree.

SECOND READING

AAS IN FEED AND FOOD MANUFACTURING - KSU

Jesse Mendez introduced Dr. Dan Moser, Associate Dean for Academic Programs for the College of Agriculture. Dr. Moser provided an overview of the proposal, stating that this program will address a national shortage in this field. The program would be unique to Kansas and the surrounding area, as only three other land-grant universities offer similar programs nationally. Barbara Bichelmeyer moved to approve the AAS in Feed and Food Manufacturing at KSU. Brent Thomas seconded, and the motion carried unanimously.

BS IN NUCLEAR ENGINEERING - KSU

Jesse Mendez introduced Dr. Amir Bahadori, the director of the Nuclear Engineering Program, who provided an overview of the proposal. This program would be the only nuclear program in the state of Kansas. KSU already has qualified faculty and is equipped to offer such a program. Jill Arensdorf moved to approve the BS in Nuclear Engineering at KSU. Barbara Bichelmeyer seconded, and the motion carried unanimously.

OTHER MATTERS

CHANGES TO QUALIFIED ADMISSIONS – KSU

Jesse Mendez introduced Vice Provost for Enrollment Management Karen Goos, who shared an overview of the proposed changes to qualified admissions. The guaranteed options for freshmen would include a minimum 3.0 high school GPA, regardless of test score, or with no test score, or a minimum of 21 on the ACT and a minimum 2.5 high school GPA.

REQUEST TO CHANGE NAME OF BA IN PERFORMING ARTS TO BA IN MUSIC - FHSU

Jill Arensdorf shared an overview of the request to change the BA in Performing Arts name to a BA in Music. The theatre concentration was formally discontinued in Fall 2024. The change would also align with the National Association of Schools of Music (NASM). Barbara Bichelmeyer moved to approve the name change request. Jesse Mendez seconded, and the motion carried unanimously.

DISCUSS OPPORTUNITIES THAT UNIVERSITIES ARE CONSIDERING OR PLANNING TO PURSUE IN THE FUTURE

Barbara Bichelmeyer shared that KU has several degree proposals being considered that may be presented to the council in the fall, including a BS in Human Biology, a BA/BGS in Intelligence and National Security Studies, a BS in Biomedical and Pharmaceutical Sciences, a BS in Sports Psychology and Wellness, an MS in Sustainable Buildings, an MA in Historic Preservation, and an MSE in Transformative Education.

ANNOUNCEMENTS

Chair Susan Bon provided a reminder that the next COCAO meeting will be held on June 11.

ADJOURNMENT

Jill Arensdorf moved that the meeting be adjourned. Jesse Mendez seconded, and the motion carried. The meeting adjourned at 9:34 a.m.

Program Approval

Summary

Universities may apply for approval of new academic programs following the guidelines in the Kansas Board of Regents Policy Manual. The University of Kansas has submitted an application for approval and the proposing academic unit has responded to all of the requirements of the program approval process.

June 11, 2025

I. General Information

A. Institution University of Kansas

B. Program Identification

Degree Level:	Master's
Program Title:	Computational Biology
Degree to be Offered:	Master of Science in Computational Biology
Responsible Department or Unit:	College of Liberal Arts and Sciences/ Computational Biology Program
CIP Code:	26.1104
Modality:	Face-to-Face
Proposed Implementation Date:	Fall 2026

Total Number of Semester Credit Hours for the Degree: 32

II. Clinical Sites: Does this program require the use of Clinical Sites? No

III. Justification

Computational Biology is an interdisciplinary science at the interface of biology, chemistry, medicine, mathematics, and computer science. Its goal is the development and application of computational approaches to studies of life processes and improvement of human health and living conditions on Earth. In this current era of artificial intelligence and structural biology, the training of a new master's-level cadre in computational biology is of primary importance to basic, clinical and applied science in academia, industry, and many other segments of society.

The Computational Biology Program carries out fundamental research in life sciences, develops computer modeling approaches, fosters community-wide activities in computational biology and provides education for the new generation of researchers. The current need for this master's program is threefold: 1) Provide training in Kansas to prepare for predicted job market growth, 2) increase recruitment of competitive PhD students, and 3) increase support for existing students.

1) Providing training in Kansas to prepare for predicted job market growth is described in *section IV*.

2) With respect to increasing recruitment of competitive PhD students smart, self-aware students want to have plans and contingency plans. They may be excited about, and prepared for, earning a PhD. However, they are also aware that five to six years (average PhD duration) is a long commitment and that life is unpredictable. KU has not yet found another competing PhD program that does not have an off-ramp to a master's option. Though KU has world class, highly funded faculty in Computational Biology, asking students to choose our program that does not have a master's over competing programs where there is a contingency plan for a master's degree is increasingly difficult. Offering a master's degree will allow us to be competitive with other universities.

3) Finally, a master's option will increase support for existing students. PhD programs entail considerable time and challenges. Students may face various difficulties such as health or family issues or a change with their research focus prompting them to consider alternative paths. Even if they ultimately choose not to pursue a master's degree, having the option provides reassurance during challenging times.

Ultimately, this master's will be used to confer a credential to those who have already earned it to help them find suitable employment when they are unable to complete the doctoral program

IV. Program Demand:

Market Analysis

This Master's in Computational Biology will provide training in Kansas to prepare for predicted job market growth. KU commissioned a Lightcast analysis that demonstrates this.

Lightcast (2024) predicts an +8.3% growth of natural science managers over the next five years and a +7.43% growth of biological scientists over the next five years. The proposed master's program will help take advantage of this growth industry by providing training in increasingly high demand skills.

The following are skills that this program would train in (specialized skills, general skills, and software skills) that are predicted by Lightcast (2024) to be growing with respect to the market:

- Specialized skills in growth areas will include: Biology (25.7% projected skill growth), data analysis (25.8% projected skill growth), molecular biology (+16.0% projected skill growth), and data management (+19.9% projected skill growth).
- With respect to top common skills, the program will teach the following skills: research (+17.2% projected skill growth), writing (+11.8% projected skill growth), presentations (+23.0% projected skill growth), and problem solving (+11.3% projected skill growth).
- Software skills taught will include: Microsoft Power Point (+26.1% projected skill growth), and python programming (+24.5% projected skill growth).

This proposed master's program aims to attract top computational biology talent that may otherwise opt for enrollment in other Computational Biology PhD programs. Virtually all other PhD programs housed in colleges of arts and sciences at all competing universities offer terminal master's for those who wish to not complete their PhD. Even at KU, Computational Biology is the only PhD program in the College of Liberal Arts & Sciences that does not provide the option of leaving with a master's degree after completing coursework. Indeed, every other PhD program at KU-Lawrence has a master's program option. These programs increase interest in the PhD because they provide additional options for unknown futures.

It is notable that every single peer institution with a Computational Biology PhD program has such a master's degree option. This includes: University of Pittsburgh, Duke University, Brown University, and Carnegie Melon University. No other computational biology programs exist in the state or surrounding ones (Colorado, Missouri, Nebraska, Oklahoma).

This master's will support the recruitment of excellent PhD students and will give students an option that demonstrates their mastery of the subject should they decide to not continue to pursue the PhD.

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

Year	Total Headcount Per Year		Total Sem Credit Hrs Per Year	
	Full- Time	Part- Time	Full- Time	Part- Time
Implementation	1	0	15	0
Year 2	1	0	15	0
Year 3	1	0	15	0

VI. Employment

Graduates with a Master's Computational Biology have Lightcast-predicted growth skills and unique expertise in both molecular biology and computational techniques, positioning them for a variety of specialized roles in Kansas, particularly within growth sectors like healthcare, research, and biotechnology. Some potential career options include:

1. **Computational Biologist** – Computational biologists apply mathematical and computational approaches to biological data, often to understand complex biological systems. They can find roles in Kansas with research institutions, pharmaceutical companies, and agricultural biotechnology firms.
2. **Bioinformatics Engineer** – In this role, professionals design and implement software tools to manage and interpret biological data. Bioinformatics engineers are in demand in biotech companies, universities, and hospitals working on genomic research, drug discovery, and precision medicine.
3. **Proteomics Data Scientist** – Proteomics specialists analyze protein data to understand protein structure and function. This expertise is valuable in biomedical research, pharmaceutical development, and biotech firms focusing on drug discovery or biomarker research.
4. **Systems Biologist** – Systems biologists study interactions within biological systems, integrating molecular biology and computational techniques to understand complex processes in cells or ecosystems. Research institutions and biotechnology companies in Kansas may hire systems biologists for projects on human health, plant biology, or microbiology.
5. **Biopharmaceutical Scientist** – In the pharmaceutical industry, these scientists contribute to the development of new drugs by analyzing molecular data and conducting computational simulations. Kansas-based pharmaceutical companies and research organizations may hire for this role.
6. **Biomedical Research Technician** – In academic labs, hospitals, or biomedical companies, research technicians work on projects involving molecular biology and genetics, supporting research that may include analyzing DNA, RNA, or protein samples. With computational skills, they can also contribute to managing and analyzing data, which is highly valuable in precision medicine and genomics research.

These careers allow graduates to apply their specialized knowledge of molecular biology and computational analysis to address critical issues in healthcare, research and biotechnology, directly benefiting Kansas industries and communities.

VII. Admission and Curriculum

A. Admission Criteria

Accepted students must fulfill standard admission requirements of the College of Liberal Arts & Sciences Graduate Office:

- Proof of a bachelor's degree (and any post-bachelor's coursework or degrees) from a regionally accredited institution, or a foreign university with substantially equivalent bachelor's degree requirements
- Proof of English proficiency for non-native or non-native-like English speakers

- Additional requirements of the program:
  - Overall undergraduate GPA: ~ 3.5 (out of 4.0)

- Personal statement about candidate's career goals
- Bachelor's degree in natural sciences, mathematics, engineering, or another relevant field
- Three letters of recommendation
- English proficiency scores according to the College Graduate Office requirements for non-native speakers.

B. Curriculum

The program accepts students with a variety of backgrounds (expertise in chemistry, biology, computer science, or math), interests (algorithm development or algorithm implementation), and skills (those gifted in communication or coding), so ideal curriculum varies from student to student. Each student's curriculum is custom-tailored by the student in collaboration with their advisor to address any deficits from their undergraduate work and to prepare them to succeed as a scientist. Below is a sample semester-by-semester plan for the degree:

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

Course #	Course Name	SCH = 9
BINF 701	Computational Biology I	5
BIOL 636	Biochemistry I	4

Year 1: Spring

Course #	Course Name	SCH = 8
BINF 702	Computational Biology II	5
	Elective	3

Year 1: Summer

Course #	Course Name	SCH = 1 or 3
CHEM 816 or BIOL 817	Careers in Biomedical Sciences or Rigor, Reproducibility and Responsible Conduct of Research	1 or 3

Year 2: Fall

Course #	Course Name	SCH = 7
BINF 709	Topics in Computational Biology	1
	Electives	6

Year 2: Spring

Course #	Course Name	SCH = 7
BIOL 638	Biochemistry II	4
	Elective	3

Total Number of Semester Credit Hours …… 32-34

VIII. Core Faculty

Note: * Next to Faculty Name Denotes Director of the Program, if applicable

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
Joanna Slusky	Professor	PhD	Y	Computational biology—	0.10

				protein docking	
Ilya Vakser*	Professor & Director	PhD	Y	Computational docking—protein design	0.20
Erik Holmstrom	Asst Professor	PhD	Y	RNA structure and protein interactions	0.10
Roberto De Guzman	Professor	PhD	Y	Nuclear magnetic resonance spectroscopy of proteins	0.10

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

IX. Expenditure and Funding Sources

A. EXPENDITURES	First FY	Second FY	Third FY
Personnel – Reassigned or Existing Positions			
Faculty	$68,219	$137,328	$137,328
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)*	$21,830	$43,945	$43,945
Other Personnel Costs			
Total Existing Personnel Costs – Reassigned or Existing	$90,049	$181,273	$181,273
Personnel – New Positions			
Faculty	0	0	0
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)*	0	0	0
Other Personnel Costs	0	0	0
Total Existing Personnel Costs – New Positions	0	0	0
Start-up Costs - One-Time Expenses			
Library/learning resources	0	0	0
Equipment/Technology	0	0	0
Physical Facilities: Construction or Renovation	0	0	0
Other	0	0	0
Total Start-up Costs	0	0	0
Operating Costs – Recurring Expenses			
Supplies/Expenses	0	0	0
Library/learning resources	0	0	0
Equipment/Technology	0	0	0
Travel	0	0	0

Other	0	0	0
Total Operating Costs	0	0	0
GRAND TOTAL COSTS	$90,049	$181,273	$181,273

B. FUNDING SOURCES *(projected as appropriate)*	Current	First FY (New)	Second FY (New)	Third FY (New)
Tuition / State Funds		$16,269	$16,269	$16,269
Student Fees		$150	$150	$150
Other Sources				
GRAND TOTAL FUNDING		$16,419	$16,419	$16,419
C. Projected Surplus/Deficit (+/-) (Grand Total Funding *minus* Grand Total Costs)		-$73,630	-$164,854	-$164,854

X. Expenditures and Funding Sources Explanations

Costs of reallocated personnel expenditures are listed; however, these expenses are already incurred for the doctoral program which averages ten majors annually.

A. Expenditures

Personnel – Reassigned or Existing Positions

KU will use existing infrastructure including faculty and staff time. Director Ilya Vakser will be responsible for reviewing and maintaining the academic catalog, updating and submitting assessment materials, and advising on academic requirements for students who have been counseled or have chosen to switch to the master's.

The Computational Biology program will not be creating new materials, as this degree would only be used for students who are recruited to the existing Computational Biology PhD program who decide that they would like to leave after having completed their coursework but before defending their dissertation. All of the courses in the master's degree are already being taught, but we included the instructional costs in the expenditures even though they will be incurred for the PhD program regardless of whether we add the master's degree.

Personnel – New Positions

No new faculty, staff hires, recruitment materials, facilities, or equipment will be necessary to offer this master's degree.

Start-up Costs – One-Time Expenses

No new faculty, staff hires, recruitment materials, facilities, or equipment will be necessary to offer this master's degree.

Operating Costs – Recurring Expenses

There are no recurring operating expenses.

B. Revenue: Funding Sources

The Master's in Computational Biology degree will be funded through standard tuition and fee revenue for students admitted to the doctoral program. 2024-2025 standard tuition for Lawrence Campus graduate students is

$453.30 per credit hour for resident students and $1,084.60 per credit hour for non-resident students. Non-resident tuition rates were used for these calculations. Student fees were calculated based on the $10 per credit hour course fee for CLAS effective Fall 2024.

C. Projected Surplus/Deficit

Year 1: -$71,441
Year 2: -$147,341
Year 3: -$147,341

XI. References

Lightcast Report. Program Overview; Data Analytics. Lightcast Q3 2024 Data Set. September 2024.

Attachment

List of MathStats and ApplStats Courses

A. List MathStats Courses

Dept	Code	Title	Hours
Mathematics	MATH 582	Computational Data Science	3
Mathematics	MATH 605	Applied Regression Analysis	3
Mathematics	MATH 608	Statistical Data Science	3
Mathematics	MATH 624	Discrete Probability	3
Mathematics	MATH 630	Actuarial Mathematics	3
Mathematics	MATH 717	Nonparametric Statistics	3
Mathematics	MATH 727	Probability Theory	3
Mathematics	MATH 728	Statistical Theory	3
Mathematics	MATH 750	Stochastic Adaptive Control	3

B. List ApplStats Courses

Department	Code	Title	Hours
Aerospace Engineering	AE 768	Orbit Determination	3
Biology	BIOL 370	Introduction to Biostatistics	4
Business	BSAN 415	Data Analysis and Forecasting	3
Business	BSAN 450	Data Mining and Predictive Analytics	3
Civil, Envr, & Arch Engineering	CE 711	Probabilistic Design and Reliability	3
Civil, Envr, & Arch Engineering	CE 760	Stochastic Hydrology	3
Economics	ECON 526	Introduction to Econometrics	3
Economics	ECON 715	Elementary Econometrics	3
Economics	ECON 716	Econometric Forecasting	3
Electrical Engr & Computer Science	EECS 563	Introduction to Communication Networks	3

Electrical Engr & Computer Science	EECS 658	Introduction to Machine Learning	3
Electrical Engr & Computer Science	EECS 769	Information Theory	3
Educational Psychology	EPSY 710	Introduction to Statistical Analysis	3
Geography	GEOG 716	Advanced Geostatistics	3
Geology	GEOL 504	Inverse Problems for Geoscientists	3
Mechanical Engineering	ME 788	Optimal Estimation	3
Physics & Astronomy	PHSX 615/ EPHX 615	Numerical & Computational Methods in Physics	3
Physics & Astronomy	PHSX 616/ EPHX 616	Physical Measurements	4
Physics & Astronomy	PHSX 671/ EPHX 671	Thermal Physics	3
Psychology	PSYC 500	Intermediate Statistics in Psychological Research	3
Psychology	PSYC 599	Data III: Data Management	3
Psychology	PSYC 612	Data IV: Introduction to Machine and Statistical Learning	3
Psychology	PSYC 699/ POLS 699	Community Data Lab	3

Program Approval

Summary

Universities may apply for approval of new academic programs following the guidelines in the Kansas Board of Regents Policy Manual. The University of Kansas has submitted an application for approval and the proposing academic unit has responded to all of the requirements of the program approval process.

June 11, 2025

I. General Information

A. Institution University of Kansas

B. Program Identification

Degree Level:	Bachelor's
Program Title:	Statistics
Degree to be Offered:	Bachelor of Science
Responsible Department or Unit:	Department of Mathematics
CIP Code:	27.0501
Modality:	Face-to-Face
Proposed Implementation Date:	Spring 2026

Total Number of Semester Credit Hours for the Degree: 120

II. Clinical Sites: Does this program require the use of Clinical Sites? No

III. Justification

The B.S. in Statistics is aimed at students who desire to obtain rigorous training in Statistics to pursue careers that heavily utilize Statistics, or who are interested in continuing into graduate level studies of Statistics and its applications. As collecting and analyzing data is ubiquitous in about every human activity, statisticians can find employment in many areas of finance and corporate banking, data analytics and data science, medicine, actuarial science, insurance and business analytics, geological and atmospheric sciences, or government. This program will provide students with an interest in pursuing such jobs with an explicitly marketable degree and a set of technical skills with which to pursue those careers.

Additionally, the proposed B.S. in Statistics will address an unmet demand from the perspective of KU students. Currently, KU does not offer a mathematically rigorous, technically intensive undergraduate STEM oriented degree program in Statistics. The Department of Mathematics at KU is well positioned to meet this need.

IV. Program Demand: Market Analysis

Currently the only public university in Kansas that offers a Bachelor of Science or Bachelor of Arts degree with the same CIP Code is K-State, which is offered by the Department of Statistics. Conversely, all but one (University of Oregon) of KU's Peer Universities[1], has a program that offers either a B.A. or a B.S. in Statistics. The fact that all the other peer institutions have sustainable degree programs in Statistics indicates the viability of such a program at KU. Undergraduate programs also exist in Nebraska, Colorado, Oklahoma, and Missouri.

[1] As approved by KBOR in 2013.

Additionally, the proposed B.S. in Statistics is designed as a multidisciplinary undergraduate program that will provide students not only with a solid mathematical foundation in statistical sciences, but also the opportunity to gain experience about important applications of statistics from other natural science, social science, business, and engineering departments. As one of only 187 institutions in the country classified with the highest-level research spending and doctoral production, and as the home of several nationally ranked Engineering and STEM programs, as well as proximity to both Kansas City and Topeka, KU is in an ideal position to offer such a statistics degree program.

A trend analysis of fifty institutions, based on Lightcast (2024) data indicates that the BS in Statistics remains in demand with long-term growth visible over an 11-year period (2012-2023). Nationwide, the degree has seen a remarkable 200% increase in completions from 1,139 in 2012 to 3,418 in 2023 (Lightcast, 2024).

BS in Statistics graduates are highly sought after in several occupations, including data scientists, natural sciences managers, mathematical science occupations, actuaries, statisticians, survey researchers, statistical assistants, and mathematicians (Lightcast, 2024). As of 2023-2024, there were 158,000 job postings relevant to BS in Statistics graduates, marking a 4.3% increase in job postings. Additionally, all targeted occupations have experienced growth in annual openings, ranging from 0.89% to as high as 5.64% (Lightcast, 2024).

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

Year	Total Headcount Per Year		Total Sem Credit Hrs Per Year	
	Full- Time	Part- Time	Full- Time	Part- Time
Implementation	5	0	150	0
Year 2	10	0	300	0
Year 3	20	0	600	0

VI. Employment

Students with degrees in Statistics are well positioned to take jobs as either Statisticians or Data Scientists. According to the Bureau of Labor Statistics (BLS), there were 34,800 jobs as a Statistician in 2023, and the expected job growth between 2023-2033 is 11% (U.S. Department of Labor, n.d.). This is designated as “much faster than average”. Further, the BLS indicates there were 202,900 jobs in Data Science in 2023, and the expected job growth between 2023-2023 is 36% (U.S. Department of Labor, n.d.). Again, this is designated as much faster than average.

In addition, according to the US Department of Labor’s Occupational Information Network (O*NET), both “Statistician” and “Data Scientist” are considered “Bright Outlook” occupations, which is said to indicate occupations that are expected to grow rapidly in the next several years, will have a large number of job openings, or are new and emerging occupations (O*NET Online, n.d.).

VII. Admission and Curriculum

A. Admission Criteria

Qualified Admission criteria are used, as the program does not have separate admission requirements.

B. Curriculum

The curriculum below shows students enrolled in Calculus I that is aligned to the KBOR Math & Statistics Discipline Area for general education. Students who instead start in College Algebra the first semester are still able to complete the degree in four years with 120 credit hours.

Year 1: Fall SCH = Semester Credit Hours

Course #	Course Name	SCH=15
ENGL	KBOR English Discipline Area	3
S&BS	KBOR Core Social & Behavioral Science Discipline Area	3
	KBOR Natural & Physical Science Designated Area	4
MATH 125	KBOR Mathematics & Statistics Discipline Area Calculus I	5

Year 1: Spring

Course #	Course Name	SCH=17
ENGL	KBOR English Discipline Area	3
COMS	KBOR Communications Discipline Area	3
EECS 138, EECS 168 or EECS 169	Introduction to Computing Programming I Programming I: Honors	3
MATH 126	Calculus II	5
	Elective	3

Year 2: Fall

Course #	Course Name	SCH=16
A&H	KBOR Arts & Humanities Discipline Area	3
S&BS	KBOR Core Social & Behavioral Science Discipline Area	3
MATH 127	Calculus III	5
MATH 290	Elementary Linear Algebra	2
	Elective	3

Year 2: Spring

Course #	Course Name	SCH=15
A&H	KBOR Arts & Humanities Discipline Area	3
	KBOR Core Institutional Designated Area	3
MATH 627	Probability	3
	Elective	3
	Elective	3

Year 3: Fall

Course #	Course Name	SCH=15
	KBOR Core Institutional Designated Area	3
	Course from MathStats List	3
	Course from MathStats/ApplStats List	3
MATH 628	Mathematical Theory Statistics	3
	Elective	3

Year 3: Spring

Course #	Course Name	SCH=15
	Course from MathStats List	3
	Elective	3
	Elective	3
	Elective	3
	Elective	3

Year 4: Fall

Course #	Course Name	SCH=15
	Course from MathStats/ApplStats List	3
	Elective	3
	Elective	3
	Elective	3
	Elective	3

Year 4: Spring

Course #	Course Name	SCH=12
	Elective	3
MATH 690	Capstone in Statistics	3
	Elective	3
	Elective	3

Total Number of Semester Credit Hours ……. 120

VIII. Core Faculty

Note: * Next to Faculty Name Denotes Director of the Program, if applicable
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
Tyrone Duncan	Professor	Ph.D.	Y	Probability & Statistics	1.0
Jin Feng	Professor	Ph.D.	Y	Stochastic Analysis	1.0
Weizhang Huang	Professor	Ph.D.	Y	Computational Mathematics	0.25
Zhipeng Liu	Professor	Ph.D.	Y	Probability / Math Physics	1.0
Myunghyun Oh	Assoc. Prof.	Ph.D.	Y	Applied Math	0.25
Joonha Park	Asst. Prof.	Ph.D.	Y	Statistics	1.0
Bozenna Pasik-Duncan	Professor	Ph.D.	Y	Statistics / Stochastic Control	1.0
Zsolt Talata	Assoc. Prof.	Ph.D.	Y	Statistics	1.0
Erik Van Vleck	Professor	Ph.D.	Y	Applied Math / Comp. Math	0.25

Number of graduate assistants assigned to this program ……. 1

IX. Expenditure and Funding Sources

A. EXPENDITURES	First FY	Second FY	Third FY
Personnel – Reassigned or Existing Positions			
Faculty	$45,000	$140,040	$241,250
Administrators *(other than instruction time)*	0	0	0
Graduate Assistants	$10,500	$10,710	$22,000
Support Staff for Administration (*e.g., secretarial*)	0	0	0

Fringe Benefits *(total for all groups)*	$15,240	$45,670	$78,960
Other Personnel Costs	0	0	0
Total Existing Personnel Costs – Reassigned or Existing	$70,740	$196,420	$342,210
Personnel – New Positions			
Faculty	0	0	0
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)*	0	0	0
Other Personnel Costs	0	0	0
Total Existing Personnel Costs – New Positions	0	0	0
Start-up Costs - One-Time Expenses			
Library/learning resources	0	0	0
Equipment/Technology	0	0	0
Physical Facilities: Construction or Renovation	0	0	0
Other	0	0	0
Total Start-up Costs	0	0	0
Operating Costs – Recurring Expenses			
Supplies/Expenses	0	0	0
Library/learning resources	0	0	0
Equipment/Technology	0	0	0
Travel	0	0	0
Other	0	0	0
Total Operating Costs	0	0	0
GRAND TOTAL COSTS	$70,740	$196,420	$342,210

B. FUNDING SOURCES *(projected as appropriate)*	Current	First FY (New)	Second FY (New)	Third FY (New)
Tuition / State Funds		$90,125	$180,251	$360,504
Student Fees		$1,500	$3,000	$6,000
Other Sources		0	0	0
GRAND TOTAL FUNDING		$91,625	$183,251	$366,504

C. Projected Surplus/Deficit (+/-) (Grand Total Funding *minus* Grand Total Costs)		$20,885	-$13,169	$24,294

X. Expenditures and Funding Sources Explanations

A. Expenditures

Personnel – Reassigned or Existing Positions

Existing Math faculty members will teach the required core curriculum and a rotation of Math electives that can count towards the Statistics electives. These courses will be taught as part of their regular course load in Math. The number of Math faculty teaching courses will be limited to two courses in the first year, but FTE dedicate to teaching courses in the degree will ramp up in years two and three as the initial cohort progresses through the curriculum and new students enroll in the degree.

One Math GTA from the currently funded Math GTA pool will assist with large Math sections each year.

Personnel – New Positions

No new positions will be required to teach the core curriculum or electives required for the degree.

Start-up Costs – One-Time Expenses

None

Operating Costs – Recurring Expenses

None

B. Revenue: Funding Sources

The Statistics degree will be fully funded through standard tuition and fee revenue. AY 2024-2025 standard tuition for Lawrence Campus students is $365.60 per credit hour for resident students and $976.60 per credit hour for non-resident students. Consistent with the overall undergraduate student credit hour distribution on the Lawrence campus, it is estimated that 61.5% of student credit hours will be from resident students and 38.5% from non-resident students, and revenue projections from base tuition were calculated using a weighted average of $600.84 per credit hour. Student fees were calculated based on the $10 per credit hour course fee for CLAS effective Fall 2024.

C. Projected Surplus/Deficit

Year 1: $20,885
Year 2: -$13,169
Year 3: $24,294

XI. References

Bureau of Labor Statistics, (n.d.) *Occupational Outlook Handbook, Mathematicians and Statisticians*, U.S. Department of Labor. Retrieved March 17, 2025, from https://www.bls.gov/ooh/math/mathematicians-and-statisticians.htm.

Bureau of Labor Statistics, (n.d.) *Occupational Outlook Handbook, Data Scientists*, U.S. Department of Labor. Retrieved March 13, 2025, from https://www.bls.gov/ooh/math/data-scientists.htm.

Lightcast Report. Program Overview; Data Analytics. Lightcast Q3 2024 Data Set. September 2024.

O*NET Online (n.d.). *Statisticians, 15-2041.00.* Retrieved April 11, 2025, from https://www.onetonline.org/link/summary/15-2041.00

O*NET Online (n.d.). *Data Scientists, 15-2051.00.* Retrieved April 11, 2025, from https://www.onetonline.org/link/summary/15-2051.00

Attachment

List of MathStats and ApplStats Courses

A. List MathStats Courses

Dept	Code	Title	Hours
Mathematics	MATH 582	Computational Data Science	3
Mathematics	MATH 605	Applied Regression Analysis	3
Mathematics	MATH 608	Statistical Data Science	3
Mathematics	MATH 624	Discrete Probability	3
Mathematics	MATH 630	Actuarial Mathematics	3
Mathematics	MATH 717	Nonparametric Statistics	3
Mathematics	MATH 727	Probability Theory	3
Mathematics	MATH 728	Statistical Theory	3
Mathematics	MATH 750	Stochastic Adaptive Control	3

B. List ApplStats Courses

Department	Code	Title	Hours
Aerospace Engineering	AE 768	Orbit Determination	3
Biology	BIOL 370	Introduction to Biostatistics	4
Business	BSAN 415	Data Analysis and Forecasting	3
Business	BSAN 450	Data Mining and Predictive Analytics	3
Civil, Envr, & Arch Engineering	CE 711	Probabilistic Design and Reliability	3
Civil, Envr, & Arch Engineering	CE 760	Stochastic Hydrology	3
Economics	ECON 526	Introduction to Econometrics	3
Economics	ECON 715	Elementary Econometrics	3
Economics	ECON 716	Econometric Forecasting	3
Electrical Engr & Computer Science	EECS 563	Introduction to Communication Networks	3

Electrical Engr & Computer Science	EECS 658	Introduction to Machine Learning	3
Electrical Engr & Computer Science	EECS 769	Information Theory	3
Educational Psychology	EPSY 710	Introduction to Statistical Analysis	3
Geography	GEOG 716	Advanced Geostatistics	3
Geology	GEOL 504	Inverse Problems for Geoscientists	3
Mechanical Engineering	ME 788	Optimal Estimation	3
Physics & Astronomy	PHSX 615/ EPHX 615	Numerical & Computational Methods in Physics	3
Physics & Astronomy	PHSX 616/ EPHX 616	Physical Measurements	4
Physics & Astronomy	PHSX 671/ EPHX 671	Thermal Physics	3
Psychology	PSYC 500	Intermediate Statistics in Psychological Research	3
Psychology	PSYC 599	Data III: Data Management	3
Psychology	PSYC 612	Data IV: Introduction to Machine and Statistical Learning	3
Psychology	PSYC 699/ POLS 699	Community Data Lab	3