

**KANSAS BOARD OF REGENTS
COUNCIL OF CHIEF ACADEMIC OFFICERS**

**VIRTUAL MEETING AGENDA
Wednesday, December 15, 2021
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. Meeting information will be sent to participants via email, or you may contact arobinson@ksbor.org.

- | | | |
|---|-----------------------|------|
| I. Call to Order | Jill Arensdorf, Chair | |
| A. Roll Call | | |
| B. Approve Minutes from November 17, 2021 | | p. 3 |
| II. First Readings | | |
| A. MS in Computer Science – FHSU | Jill Arensdorf | p. 6 |
| B. BS in Computer Science – PSU | Howard Smith | p.12 |
| III. Second Readings | | |
| A. BS/BAS in Project Management – KU | Barbara Bichelmeyer | p.21 |
| B. M.Eng. in Electrical Engineering & Computer Science – KU | Barbara Bichelmeyer | p.33 |
| IV. Other Requests | | |
| A. Off-Campus Academic Specialty Program Request – K-State | Chuck Taber | p.47 |
| B. Request Approval to Merge Departments of American Ethnic Studies and Gender, Women, & Sexuality Studies – K-State | Chuck Taber | p.55 |
| C. Request for Approval to Change Name of Department of Women’s Studies to Department of Women’s, Ethnicity, & Intersectional Studies – WSU | Shirley Lefever | p.56 |
| V. Council of Faculty Senate Presidents Update | Janet Stramel, FHSU | |
| VI. Other Matters | | |
| A. Discuss Opportunities (new degree programs, partnerships, strategic initiatives, etc.) that Universities are Considering or Planning to Pursue in the Future | COCAO Members | |
| VII. Next COCAO Meeting – January 19, 2022 | | |
| A. New Program Approvals | | |
| VIII. Adjournment | | |

Date Reminder:

- Program Review Reports due January 28th to Sam (schristy@ksbor.org)

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:

| | | | |
|-----------------------|---------|------------------|----------|
| Jill Arensdorf, Chair | FHSU | Howard Smith | PSU |
| George Arasimowicz | ESU | JuliAnn Mazachek | Washburn |
| Charles Taber | K-State | Shirley Lefever | WSU |
| Barbara Bichelmeyer | KU | Daniel Archer | KBOR |
| Robert Klein | KUMC | | |

Council of Chief Academic Officers AY 2022 Meeting Schedule

| <i>COCAO Academic Year 2021- 2022 Meeting Dates</i> | | | | |
|--|--|---------------------------|--------------------------------------|-------------------------------------|
| Meeting Dates | Location (virtual or in-person) | Lunch Rotation | Institution Materials Due | New Program Requests due |
| September 15, 2021 | Virtual | | August 25, 2021 | July 21, 2021 |
| | *No October Meeting | | | |
| November 17, 2021 | Virtual | | October 27, 2021 | September 22, 2021 |
| December 15, 2021 | Virtual | | November 24, 2021 | October 21, 2021 |
| January 19, 2022 | TBD | | December 29, 2021 | November 24, 2021 |
| February 16, 2022 | TBD | | January 26, 2022 | December 22, 2021 |
| March 16, 2022 | TBD | | February 23, 2022 | January 19, 2022 |
| April 20, 2022 | TBD | | March 30, 2022 | February 23, 2022 |
| May 18, 2022 | TBD | | April 27, 2022 | March 23, 2022 |
| June 15, 2022 | TBD | | May 25, 2022 | April 20, 2022 |

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

**Council of Chief Academic Officers
MINUTES**

Wednesday, November 17, 2021

The November 17, 2021, meeting of the Council of Chief Academic Officers was called to order by Chair Jill Arensdorf at 8:59 a.m. The meeting was held through Zoom.

In Attendance:

| | | | |
|----------|--|---|--|
| Members: | Shirley Lefever, WSU Chuck Taber, K-State Barbara Bichelmeyer, KU | Jill Arensdorf, FHSU George Arasimowicz, ESU Mary Carol Pomatto, PSU | Robert Klein, KUMC JuliAnn Mazachek, Washburn Daniel Archer, KBOR |
| Staff: | Karla Wiscombe Tara Lebar Marti Leisinger | Amy Robinson Cindy Farrier Lisa Beck | Sam Christy-Dangermond April Henry Hector Martinez |
| Others: | Mickey McCloud, JCCC Jerry Pope, KCKCC Adam Borth, Fort Scott CC Eric Burks, NCK Tech Janet Stramel, FHSU Jennifer Ball, Washburn Kim Krull, Butler CC Linnea GlenMaye, WSU Robert Klein, KUMC Michelle Carney, KU Remy Lequesne, KU Sarah Robb, Neosho CC Stanton Gartin, SATC Tom Nevill, Butler CC | Michelle Schoon, Cowley CC Corey Isbell, NCK Tech Elaine Simmons, Barton CC Gary Wyatt, ESU Jason Sharp, Labette CC Jennifer Roberts, KU Kay Monk-Morgan, WSU Kim Morse, Washburn Luke Dowell, SCCC Prasad Kulkarni, KU Scott Lucas, WSU Tech Stuart Day, KU Tanya Gonzalez, KU | Aron Potter, Coffeyville CC Cindy Hoss, Hutchinson CC Jane Holwerda, Dodge City CC Jean Redeker, KU JoLanna Kord, ESU John Perry, WSU Kim Zant, Cloud County CC Mark Watkins, Labette CC Monette DePew, Pratt CC Shelly Gehrke, ESU Sharon Kibbe, Highland CC Taylor Crawshaw, Highland CC Tiffany Bohm, KCKCC |

Jill Arensdorf welcomed everyone. Roll call was taken for members and presenters.

Approval of Minutes

Chuck Taber moved to approve the September 15, 2021 meeting minutes, and George Arasimowicz seconded the motion. With no corrections, the motion passed.

1st Readings

Barbara Bichelmeyer and department representatives presented the first readings for the following KU programs:

1. BS/BAS in Project Management
2. M.Eng. in Electrical Engineering & Computer Science
3. Doctorate in Advanced Social Work Practice (DSW)

The BS/BAS in Project Management will be offered on the Edwards campus, is entirely online, is transfer-friendly, increases access and diversity, and KU already has a successful graduate program at the Edwards campus. Dean Day noted there are only 15 similar accredited bachelor programs in the US.

The Master of Engineering in Electrical Engineering & Computer Science focuses on teaching advanced skills through course work, which eliminates the project and thesis component of the current MS program. Professor Kulkarni noted there are similar programs offered in Kansas. The program is popular due to anticipated

employment growth.

The DSW is a new degree program in the School of Social Welfare. This degree compliments KU's existing Ph.D. in Social Welfare, was created in response to market demand, and focuses on leadership and higher education. It is entirely online and is designed to be completed in two years. Dean Carney stated about 18 similar programs in the country exist, but none are found in Kansas or the region. Barbara noted there is a high need in Kansas.

These programs will be up for a second reading and vote at the next COCAO meeting. The DSW second reading will be delayed due to the external review team's timeline.

2nd Readings

- Chuck Taber presented the K-State second reading for an Associate of Applied Science in Unmanned Aircraft Systems. This AAS will be offered through the College of Technology and Aviation on the Salina Campus and is a response to industry and community requests. This program differs from others in the region by focusing on commercial use across various applications in the industry, aviation safety, human factors, flight instructor development, UAS maintenance, and public safety applications. Support letters from industry and the community, as well as correspondence to and from various Kansas community and technical colleges, are included in the agenda, starting on page 52. Chuck responded to clarification questions from council members.

Barbara Bichelmeyer moved to approve the K-State request as presented, and George Arasimowicz seconded the motion. With no further discussion, the motion passed through a roll call vote with 4 out of 6 members in favor. Shirley Lefever and Mary Carol Pomatto, PSU's proxy for Howard Smith, abstained from voting. Without a unanimous vote, this program will be voted on by COPS in December.

- Chuck Taber presented the K-State second reading for an MS in Aeronautics, offered by the College of Technology and Aviation on the Salina Campus. This program is responsive to industry requests, closely aligns with the K-State mission, and has strong demand. It focuses on serving the aerospace manufacturing sector, which is looking for new leadership and policy implementation skills.

George Arasimowicz moved to approve the K-State request as presented, and Barbara Bichelmeyer seconded the motion. With no further discussion, the motion passed unanimously through a roll call vote. This program will move forward to COPS later in the day for approval.

Other Matters

- Daniel Archer and Barbara Bichelmeyer presented revisions to the Spoken English Language Policy. This policy addresses English speaking proficiency requirements for non-native-speaking faculty and teaching assistants. Daniel provided a summary of the two substantive proposed changes to KBOR policy II.C.2.b.iii, which can be found on page 144 of the agenda. The first proposed set of changes adds specific English proficiency exams and details requisite scores for such exams. The second proposed set of changes aligns requirements for all appointment types of faculty and graduate teaching assistants. KU would also like to align exclusions for sign language and foreign language instruction. Jennifer Roberts provided further details of the current differences in policy and the reasons behind the request. No questions were presented.

Chuck Taber moved to approve the changes proposed to the Spoken English Language Policy, and Shirley Lefever seconded the motion. With no further discussion, the motion passed unanimously through a roll call vote. This request will move forward to COPS later in the day for approval.

- Shirley Lefever and John Perry presented the WSU request to change the name of the BBA in General

Business to BBA in Business Administration. Through interviews and surveys, it was identified this name change would be beneficial for marketing purposes. John noted this program was initially called Business Administration, and faculty also support changing the name back. No questions were presented.

Barbara Bichelmeyer moved to approve the WSU request as presented, and George Arasimowicz seconded the motion. With no further discussion, the motion passed unanimously through a roll call vote. This request will go to Blake Flanders, President and CEO, for final approval.

Council of Faculty Senate Presidents (COFSP) Update

Janet Stramel, FHSU Faculty Senate President, provided the update. She stated faculty still have concerns with the effects of the pandemic and frustrations they are experiencing due to increased workloads and finding a work and life balance. They recognize institutional responses and feel supported but have concerns with research, travel, and student health and retention.

Adjournment

The next COCAO meeting is scheduled for December 15, 2021, and will be held virtually.

Shirley Lefever moved to adjourn the meeting, and Chuck Taber seconded the motion. With no further discussion, the meeting adjourned at 9:41 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. 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.

December 15, 2021

I. General Information

A. Institution

Fort Hays State University

B. Program Identification

Degree Level: Master's
Program Title: Computer Science
Degree to be Offered: Master of Science in Computer Science
Responsible Department or Unit: Department of Computer Science and Information Science Engineering
CIP Code: 11.0201
Modality: Online
Proposed Implementation Date: Fall 2022

Total Number of Semester Credit Hours for the Degree: 33 credit hours

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

III. Justification

A master's degree provides a career boost by enabling professionals to expand their expertise in the areas of data science, network security, software development, or artificial intelligence. Earning a Master's Degree in Computer Science provides a competitive edge over other candidates when searching for new employment. More than 850 full-time job listings at Google currently mention a master's degree as a preferred qualification. Employers typically expect computer and information research scientists to hold master's degrees at minimum. Our Master's Degree in Computer Science will focus on data science which is currently an area of high demand. (Google Careers, n.d.)

The FHSU Bachelor of Science in Computer Science has grown from 220 students in 2017 to 457 in 2020. Much of this growth has come from our online program, and with this growth has come requests for a master's program. Currently, the only Kansas university that offers a master's in Computer Science with the same CIP as our proposed program is Kansas State University (MSE in Software Engineering), although K-State, KU, and Wichita State offer MS in Computer Science with a different CIP, and K-State and WSU offer an MS in Electrical Engineering. Also, KU is in the process of KBOR approval for an M. Eng. Electrical Engineering & Computer Science. Since our program is online, it will be completely accessible to a large area of place-bound students with undergraduate credentials in computer science in our service region.

IV. Program Demand

A. Survey of Student Interest

| | |
|---|-----|
| Number of surveys administered: | 386 |
| Number of completed surveys returned: | 147 |
| Percentage of students interested in program: ... | 68% |

The survey was sent to 327 online students and 59 on-campus students in fall 2019. Eighty-eight online surveys were returned and 59 on-campus surveys were returned. Seventy-three percent of the online students replied that they are interested in a master’s program in Computer Science, and 25% indicated that they are possibly interested. Sixty-one percent of on-campus students indicated that they are interested in the program. Overall, 68% of all respondents indicated interest in pursuing a Master’s Degree in Computer Science. Another 16% replied that they might be interested in the program.

B. Market Analysis

According to the U.S. Department of Labor Bureau of Labor Statistics, the rate of growth in the computer and information technology field is expected to be 13 percent from 2016 – 2026, exceeding the growth rate of all other occupations. By that time, an additional 557,100 jobs will be added. On the supply side, there may be a shortage of 1.1 million workers globally in technology, media, and telecommunications industries, and this shortage could increase to 4.3 million by 2030 (National University, 2019).

The 2019 Hanover Research, Market Opportunity Scan identifies a Master’s Degree in Computer Science as high growth in student demand, labor demand, and overall growth. Seventeen Computer Science Master’s programs are available in the Plains states of which only one is offered online (Hanover, 2019).

Large companies rely on data analysis to make decisions. Algorithms used by companies such as Google, Amazon, and Facebook require large amounts of data to be analyzed efficiently. Data science provides the ability to collect, manage, and analyze data to create the algorithms. Because of the need for data scientists, the U.S. Bureau of Labor Statistics predicts an increase of about 28% in jobs in data science by 2026. (Zita, 2021)

LinkedIn named data scientist as the second fastest-growing job in 2017 (LinkedIn, 2017), and Glassdoor ranked data scientist as the best job in the United States in 2018 (Forbes, 2018). At the regional/state level, The Kansas Department of Labor identifies software developers and software quality assurance analysts and testers, computer system analysts, computer programmers, and other computer occupations as high demand, high wage occupations (Kansas Department of Labor, January 2021). Information specific to master’s degrees was not provided.

V. 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 | 15 | 0 | 270 | 0 |
| Year 2 | 30 | 0 | 495 | 0 |
| Year 3 | 30 | 0 | 495 | 0 |

Enrollment projections are based on the available capacity of our courses if one new position is created to aid in the implementation of this program. Although some students will be part-time students, enrollment projections are stated as the equivalent of 15 or 30 full-time students enrolled in 9 credit hours of courses for three semesters and 6 credit hours for one semester.

VI. Employment

This program will reinforce knowledge and skills in software, digital storage and retrieval, networks, human-computer interaction, information security, digital design, and electronic media. Students will develop a high degree of specialization in data science, an important area of computer science that holds great growth potential (see Market Analysis above).

A Master's degree in Computer Science provides a graduate with the opportunity to advance his/her career within an organization and lead to higher earnings. Individuals with a master's degree in Computer Science earn significantly higher annual salaries than people who have a bachelor's degree. According to PayScale.com, professionals who had completed their Master's of Computer Science earned an average salary of \$103,179 as of March 2021, whereas those with a Bachelor's of Computer Science averaged \$86,095 per year at the same time period. (PayScale, n.d.).

VII. Admission and Curriculum

A. Admission Criteria

Students must have completed a bachelor's in Computer Science or a related field from a regionally accredited college or university and have earned a minimum GPA of 3.0 in the most recent 60 hours of undergraduate college credits. Students will complete the graduate school application for admission and provide a personal statement of interest, undergraduate transcripts, and a minimum of two recommendation letters. A student may enter the program in the spring or fall as required courses may be taken in either order.

B. Curriculum

Year 1: Fall

SCH = Semester Credit Hours

| Course # | Course Name | SCH.... |
|----------|------------------------------|---------|
| CSCI 601 | Advanced Programming | 3 |
| CSCI 811 | Advanced Database Management | 3 |
| CSCI 663 | Introduction to Cryptography | 3 |

Year 1: Spring

| Course # | Course Name | SCH.... |
|----------|-------------------------------|---------|
| CSCI 831 | Advanced Operating Systems | 3 |
| CSCI 841 | Advanced Software Engineering | 3 |
| CSCI 612 | Fundamentals of Research | 3 |

Year 2: Fall

| Course # | Course Name | SCH.... |
|----------|--------------------------|---------|
| CSCI 896 | Digital Image Processing | 3 |
| CSCI 866 | Data Mining | 3 |
| CSCI 851 | Advanced Data Structures | 3 |

Year 2: Spring

| Course # | Course Name | SCH.... |
|----------|-------------|---------|
| CSCI 897 | Project | 6 |

Total Number of Semester Credit Hours [33]

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 |
|----------------|-----------------|----------------|------------------|---------------------------------|-------------------------|
| Hong Zeng | Professor | PhD | Y | Algorithm Design | 0.2 |
| Anas Hourani | Asst. Professor | PhD | Y | Machine Learning | 0.2 |
| Hussam Ghunaim | Asst. Professor | PhD | Y | Data Mining | 0.2 |
| Dr. Hieu Vu* | Asst. Professor | PhD | N | Cloud Computing | 0.0 |
| Pending hire | Asst. Professor | PhD | Y | | 0.2 |
| New hire | Asst. Professor | PhD | Y | | 0.2 |

* Dr. Vu will continue to support the undergraduate program.

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

IX. 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 | \$64,000 | \$64,640 | \$65,286 |
| 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) | \$14,080 | \$14,220 | \$14,363 |
| Other Personnel Costs | \$0 | \$0 | \$0 |
| Total Existing Personnel Costs – Reassigned or Existing | \$78,080 | \$78,860 | \$79,649 |
| | | | |
| Personnel – New Positions | | | |
| Faculty | \$16,000 | \$16,160 | \$16,322 |
| 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) | \$3,520 | \$3,555 | \$3,591 |
| Other Personnel Costs | \$0 | \$0 | \$0 |
| Total Existing Personnel Costs – New Positions | \$19,520 | \$19,715 | \$19,913 |
| | | | |
| Start-up Costs - One-Time Expenses | | | |
| Library/learning resources | \$0 | \$0 | \$0 |
| Equipment/Technology | \$3,000 | \$1,000 | \$1000 |
| Physical Facilities: Construction or Renovation | \$0 | \$0 | \$0 |

| | | | |
|---|-----------|-----------|-----------|
| Other | \$0 | \$0 | \$0 |
| Total Start-up Costs | \$3,000 | \$1,000 | \$1000 |
| | | | |
| Operating Costs – Recurring Expenses | | | |
| Supplies/Expenses | \$1,000 | \$1,000 | \$1,000 |
| Library/learning resources | \$0 | \$0 | \$0 |
| Equipment/Technology | \$0 | \$0 | \$0 |
| Travel | | | |
| Other | \$0 | \$0 | \$0 |
| Total Operating Costs | \$2,500 | \$2,500 | \$2,500 |
| | | | |
| GRAND TOTAL COSTS | \$103,100 | \$102,075 | \$103,062 |

| B. FUNDING SOURCES (projected as appropriate) | Current | First FY (New) | Second FY (New) | Third FY (New) |
|---|---------|-------------------|--------------------|-------------------|
| Tuition / State Funds | | \$80,609 | \$147,782 | \$147,782 |
| Student Fees | | \$0 | \$0 | \$0 |
| Other Sources | | \$0 | \$0 | \$0 |
| GRAND TOTAL FUNDING | | \$80,609 | \$147,782 | \$147,782 |
| | | | | |
| C. Projected Surplus/Deficit (+/-) (Grand Total Funding <i>minus</i> Grand Total Costs) | | -\$22,491 | \$45,707 | \$44,720 |

X. Expenditures and Funding Sources Explanations

A. Expenditures

Personnel – Reassigned or Existing Positions

Personnel expenditures are based on 1.0 FTE among five faculty members. Five graduate courses will be taught by these faculty members each semester.

This proposal is part of the undergraduate expansion proposal. The remaining .8 FTE for each faculty member will be dedicated to undergraduate offerings and development of master’s courses. The undergraduate expansion proposal includes the addition of two faculty members to the existing four full-time faculty members, Dr. Zeng, Dr. Hourani, Dr. Ghunaim, and Dr. Vu.

Personnel – New Positions

One new position in addition to the pending hire will be added with 0.2 FTE dedicated to this program. The addition of one position with a 0.8 undergraduate/0.2 graduate split in responsibilities will allow for the other four faculty members to each dedicate 0.2 FTE to the master’s program.

Start-up Costs – One-Time Expenses

The only anticipated start-up costs involve the purchase of licenses for software.

Operating Costs – Recurring Expenses

Money identified in recurring costs will contribute to the purchasing of office supplies and normal operating expenses. Administrative support is currently provided by the department's senior administrative assistant, and she will be assisted by the student secretary for the Department of Mathematics. Faculty development costs are included in Travel.

B. Revenue: Funding Sources

Revenue will be generated through online graduate tuition and fees at \$298.55 per credit hour for 15 students taking eighteen hours per year for the first year, and 15 second-year students taking 15 hours and 15 first-year students taking 18 hours the second year and the third year. The projected increase in SCH is expected to provide funding needed to support the master's program after the first year as shown in Section IX.

C. Projected Surplus/Deficit

Assuming the program attracts the equivalent of 15 new full-time students each year, a deficit of \$22,491 is expected the first year, a surplus of \$45,707 is expected the second year, and a surplus of \$44,720 is expected the third year. The program would break even in Year 1 with 20 full-time (18 graduate credit hours per year) students.

XI. References

Bureau of Labor Statistics, U.S. Department of Labor. (n.d.). Occupational Outlook Handbook.

<https://www.bls.gov/ooh/computer-and-information-technology/computer-and-information-research-scientists.htm>

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<https://www.forbes.com/sites/louiscolombus/2018/01/29/data-scientist-is-the-best-job-in-america-according-glassdoors-2018-rankings/?sh=24fceb6d5535>

Google Careers. (n.d.).

https://careers.google.com/jobs/results/?company=Google&company=YouTube°ree=MASTERS&distance=50&employment_type=FULL_TIME&hl=en_US&jlo=en_US&q=master%27s%20degree&sort_by=relevance

Hanover Research Group. (2019). *Market Opportunity Scan: Bachelor's and Master's Degree Programs.* Report prepared for Fort Hays State University.

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National University. (2019). *Are Computer Science Jobs in Demand?* <https://www.nu.edu/resources/are-computer-science-jobs-in-demand/>

PayScale. (n.d.). payscale.com

Zita, Christopher. (January 26, 2021). *Is Data Science Still a Rising Career in 2021?*

<https://towardsdatascience.com/is-data-science-still-a-rising-career-in-2021-722281f7074c>

Program Approval

Summary

Universities may apply for approval of new academic programs following the guidelines in the Kansas Board of Regents Policy Manual. Pittsburg 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.

December 15, 2021

I. General Information

A. Institution Pittsburg State University

B. Program Identification

Degree Level: Bachelor
Program Title: Computer Science
Degree to be Offered: Bachelor of Science in Computer Science
Responsible Department or Unit: Department of Mathematics
CIP Code: 11.0701
Modality: Hybrid
Proposed Implementation Date: August 2022

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

Across the nation, the demand for Computer Science programs is high. According to a recent article from the *New York Times*, demand is so high that some universities, such as the University of Maryland, must limit enrollment. In an example closer to PSU, the University of Central Missouri graduated 56 Computer Science majors in a recent year. Demand is growing in the field as jobs are going unfilled. The University has been approached by local entrepreneurs and employers who have strongly encouraged the creation of a degree in Computer Science to help fill local and regional needs for qualified people in this field. Ability to draw computer scientists educated elsewhere to the region has been challenging. This is echoed by the University's own IT staff. While it is recognized that universities cannot afford to have programs in every discipline, some disciplines are common to almost all universities due to the nature of the level of need, being more local or regional to national or international. Computer Science is one of those disciplines. A survey of universities similar to PSU in size and mission finds that Computer Science programs are ubiquitous. The five other Regents' universities offer a BS in Computer Science, but there is still a great need for more computer programmers nationwide and locally (as illustrated in part VI below). Demand is such that a new program at PSU is warranted. This is reflected by the fact that Computer Science is one of the top programs requested by students interested in attending PSU.

When mature, the Computer Science program will draw students who also have an interest in mathematics, physics, information systems, engineering technology, and other similar, technically oriented programs. These programs have been suffering from a Computer Science shaped hole in PSU's offerings. It will operate synergistically with them. Computer Science has been a missing piece of the STEM ecosystem.

IV. Program Demand

A. Survey of Student Interest

| | |
|---|-------|
| Number of surveys administered: | 4,155 |
| Number of completed surveys returned: | 407 |
| Percentage of students interested in program: ... | 19% |

Of the 407 students who responded to the survey, 348 thought that PSU should have a computer science major. Of those, 77 were interested in such a major themselves. Of those 407 who responded, almost a quarter of them left comments. The following are typical:

I think this is a field that will undoubtedly be a backbone of our society for a long time to come with the rate at which technology is making advancements every day with no foreseeable end in sight. I would imagine this program could be a great advantage for students seeking jobs after graduation.

I think a computer science major would fit well at PSU.

This would be a phenomenal program to add. I am in full support.

Computers are an essential part of today's world. The need for computers and people who fully understand them will never go away, the need will only grow.

YES. Adding this degree at PSU is vital.

With the massive increase for STEM related fields, this program would fit in great at PSU.

B. Market Analysis

The job market for majors graduating with computer science degrees is extremely compelling. According to the U.S. Bureau of Labor Statistics (BLS), the 2019 median salary of someone holding the role of “Software Developer” (someone who creates applications or systems that run on computers or other devices) is \$107,510 per year. Typical entry-level education for this profession is a bachelor's degree in computer science or a related field. As of 2019, the job growth outlook for 2019-2029 is 22%, which is noted as “much faster than average.”

In addition to extremely rapid growth, there are an exceptionally large number of jobs currently unfilled for software developers or similar jobs for computer science graduates due to lack of supply. This contributes to the high salaries of individuals in these positions. According to code.org, an educational computer science advocacy institution, there are 400,000 current job openings in the united states that could be filled by computer science majors. Given the trends noted by the BLS, it is safe to conclude that this number will continue to grow.

Another indicator of the current market status can be found when analyzing the generous signing bonuses that large companies are giving to new computer science graduates/employees. Google, for instance, often awards signing bonuses for new employees in the \$15,000 to \$35,000 range. Many other companies do the same, some opting to give these employees stock in their companies as well. The conclusion that can be drawn from this is that, given the extremely high number of job openings for computer science graduates, companies have no choice but to continue to increase compensation and incentives for new recruits.

To conclude, the combination of rapid job growth, many unfilled job openings, and high salaries and incentives shows that the current market for graduates with computer science degrees puts new graduates in a highly desirable position.

V. 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 | 15 | | 450 | |
| Year 2 | 30 | | 900 | |
| Year 3 | 45 | | 1,350 | |

VI. Employment

Students with computer science degrees enjoy a range of lucrative employment opportunities across a wide variety of industries. Indeed, one could say that today, every company is in some form a “tech company,” from financial, to music, to sports, to manufacturing, even the companies we may not think of as traditional technology companies have been forced to engage that space. This means that students who are interested in almost any area can participate in that overall industry with a computer science degree.

Specific numbers for total current job openings and median salary can be found in the “Market Analysis” section.

A small sampling of large regional employers for graduates with computer science degrees in large numbers:

- Cerner
- Koch Industries
- Garmin
- Jack Henry
- Federal Reserve Bank of Kanas City

A small sampling of large national employers for graduates with computer science degrees in large numbers:

- Google
- Amazon
- Twitter
- Facebook
- Square
- Walmart
- IBM
- Microsoft

A small sampling of local employers for graduates with computer science degrees:

- Limelight (of Pittsburg, Kansas)
- WATCO
- Crossland
- Millers
- Midwestern Interactive
- CDL
- Jake’s Fireworks
- Pittsburg State University

One important overall note about employment with a computer science degree is that there is increasing flexibility for and availability of remote work. This trend is becoming so prevalent that a recent study showed

that 86% of IT/development professionals work remotely to some degree, with 1/3 of those working from home full time. This flexibility is becoming highly desirable, and uniquely positions Pittsburg State University graduates to succeed. as they are not geographically restricted when finding employment before/after graduation. They may choose to live in their hometowns while working remotely for concerns in metro areas.

VII. Admission and Curriculum

A. Admission Criteria

The program is open to all students who have been admitted to Pittsburg State University.

B. Curriculum

See the appendix for the list courses in the program and the requirements.

Year 1: Fall

SCH = Semester Credit Hours

| Course # | Course Name | SCH 15 |
|----------|-----------------------------|--------|
| MATH 122 | Plane Trigonometry | 3 |
| CIS 230 | Introduction to Programming | 3 |
| | Pitt Pathway and electives | 9 |

Year 1: Spring

| Course # | Course Name | SCH 15 |
|----------|-----------------------------|--------|
| MATH 326 | Mathematics for Programming | 3 |
| MATH 212 | Matrix Algebra | 2 |
| EET 244 | Logic Circuits | 3 |
| | Pitt Pathway and electives | 7 |

Year 2: Fall

| Course # | Course Name | SCH 15 |
|----------|--------------------------------------|--------|
| CIS 380 | Systems Analysis and Design | 3 |
| MATH 413 | Introduction to Mathematical Thought | 3 |
| | Pitt Pathway and electives | 9 |

Year 2: Spring

| Course # | Course Name | SCH 15 |
|----------|----------------------------|--------|
| MATH 513 | Discrete Structures | 3 |
| CIS 240 | Intermediate Programming | 3 |
| | Pitt Pathway and electives | 9 |

Year 3: Fall

| Course # | Course Name | SCH 15 |
|----------|-------------------------------------|--------|
| CS 405 | Principals of Software Architecture | 3 |
| CS 300 | Web Application Development I | 3 |
| | Pitt Pathway and electives | 9 |

Year 3: Spring

| Course # | Course Name | SCH 15 |
|----------|--------------------------------|--------|
| CS 305 | Web Application Development II | 3 |
| CIS 615 | Database Management | 3 |
| | Pitt Pathway and electives | 9 |

Year 4: Fall

| Course # | Course Name | SCH 15 |
|----------|--------------------------------|--------|
| MATH 626 | Data Structures and Algorithms | 3 |
| EET 344 | Microcomputer Systems | 3 |
| | Pitt Pathway and electives | 9 |

Year 4: Spring

| Course # | Course Name | SCH 15 |
|----------|-------------------------------------|--------|
| CS 410 | Introduction to Frontend Frameworks | 3 |
| CS 500 | Advanced Programming | 3 |
| | Pitt Pathway and electives | 9 |

VIII. Core Faculty

Note: * Next to Faculty Name Denotes Director of the Program
 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 |
|----------------------|---------------------|----------------|------------------|---------------------------------|-------------------------|
| Tim Flood* | Professor | PhD | Y | Number Theory | 0.25 |
| Scott Thuong | Associate Professor | PhD | Y | Topology | 0.25 |
| Retired Faculty line | Assistant Professor | PhD | Y | Computer Science | 1 |
| David Newcomb | Instructor | MS | N | Programming/Introductory Math | 1 |
| Terry Martin | Instructor | MS | N | Introductory Math | 0.125 |
| Bobby Winters | Professor | PhD | Y | Topology | 0.125 |
| Eric Mayer | Professor | PhD | Y | Embedded Systems | 0.25 |

Number of graduate assistants assigned to this program **10**

IX. 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 | \$34,111.11 | \$44,695.63 | \$155,086.00 |
| Administrators (other than instruction time) | | | |

| | | | |
|--|-------------|-------------|--------------|
| Graduate Assistants | | | |
| Support Staff for Administration (e.g., secretarial) | | | |
| Fringe Benefits (total for all groups) | \$11,001.34 | \$14,868.44 | \$20,289.04 |
| Other Personnel Costs | | | |
| Total Existing Personnel Costs – Reassigned or Existing | \$45,112.45 | \$59,564.07 | \$175,375.04 |
| | | | |
| 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 | | | |
| | | | |
| 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 | \$45,112.45 | \$59,564.07 | \$175,375.04 |

| B. FUNDING SOURCES (projected as appropriate) | Current | First FY (New) | Second FY (New) | Third FY (New) |
|---|----------|-------------------|--------------------|-------------------|
| Tuition / State Funds | In state | \$172,880 | \$345,760 | \$518,640 |
| Student Fees | | | | |
| Other Sources | | | | |
| GRAND TOTAL FUNDING | | \$172,880 | \$345,760 | \$518,640 |

| | | | | |
|---|--|-----------|-----------|-----------|
| | | | | |
| C. Projected Surplus/Deficit (+/-) (Grand Total Funding <i>minus</i> Grand Total Costs) | | \$172,767 | \$286,196 | \$315,290 |

X. Expenditures and Funding Sources Explanations

A. Expenditures

Personnel – Reassigned or Existing Positions

Year 1 & Year 2

- This is based on the assumption that there will be only zero-hour freshmen enrolled at the beginning of the program, i.e. we will not be able to accept students who transfer into junior- and senior-level computer science courses during the first two years of the program. During that time, we will only need 0.75 of a faculty position during the first year and 1.25 faculty positions during the second. The salaries were calculated from particular faculty currently on staff.

Year 3

- This year we will convert the position of a professor who is on phased retirement. There is currently one member of the department of mathematics (with a salary of \$72,000) who will be retired full before 2023. In addition, there will be another faculty member (with a salary of \$50,000) in the department who will be going on half-time phased retirement at the end of AY2021. The plan is to use the salary savings to hire someone who is qualified to teach computer science.

Personnel – New Positions

None.

Start-up Costs – One-Time Expenses

None. Currently, there is a surplus of computers and computer labs on campus due to decreasing enrollment. Ultimately, given growth, we will probably have to invested in additional local computer resources, but at present the necessary infrastructure is in place.

Operating Costs – Recurring Expenses

Taken from current operating budgets.

B. Revenue: Funding Sources

Funding is from tuition only. It is based on 15 new students a year, with 10 in-state (tuition rate \$7,744/year) and 5 out-of-state students (tuition rate \$19,088/year).

C. Projected Surplus/Deficit

We project a minimum of \$170,000 surplus during each year of the program.

XI. References

- Bolden-Barrett, V. (2019, July 19). *Working remotely is now the norm for developers, new study shows*. HR Dive. <https://www.hrdiver.com/news/working-remotely-is-now-the-norm-for-developers-new-study-shows/559013/#:~:text=Eighty%2Dsix%20percent%20of%20IT,%2C%20a%20cloud%2Dbased%20platform>.
- Code. (2021). *Why computer science?* <https://code.org/promote>
- Tuttle, B. (2019, April 15). *The massive pay on offer to entry-level Google recruits*. Financial Careers. <https://www.efinancialcareers.co.uk/news/2019/04/google-student-pay>
- U.S. Bureau of Labor Statistics. (2020, September). *Software developers, quality assurance analysts, and testers*. Occupational Outlook Handbook. <https://www.bls.gov/ooh/computer-and-information-technology/software-developers.htm>

Appendix

The Computer Science Major

| Code | | credit |
|----------|---|--------|
| | Core | 35 |
| MATH 122 | Plane Trigonometry | 3 |
| MATH 212 | Matrix Algebra | 2 |
| EET 244 | Logic Circuits | 3 |
| MATH 326 | Mathematics for Programming | 3 |
| MATH 413 | Introduction to Mathematical Thought | 3 |
| MATH 513 | Discrete Structures | 3 |
| CIS 380 | Systems Analysis and Design | 3 |
| CIS 615 | Database Management | 3 |
| CIS 230 | Introduction to Programming | 3 |
| CIS 240 | Intermediate Programming | 3 |
| MATH 626 | Data Structures and Algorithms | 3 |
| CS 405 | Principles of Software Architecture | 3 |
| | Choose 15 hours from the following | 15 |
| CS 300 | Web Application Development I | 3 |
| CS 500 | Advanced Programming | 3 |
| CS 305 | Web Application Development II | 3 |
| CS 400 | Mobile Application Development | 3 |
| CS 410 | Introduction to Front End Frameworks | 3 |
| EET 344 | Micro Computer Systems | 3 |
| EET 449 | Programmable Logic Devices | 3 |
| EET 549 | Micro Controllers | 3 |
| EET 647 | Digital Signal Processing | 3 |
| | | 24 |
| | Total hours in program | 50 |
| | Upper Division in program | 36 |
| | Upper Division electives | 9 |
| | Total Upper Division | 45 |
| | Balance to be filled with general education and electives | 70 |
| | Total Degree | 120 |

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.

December 15, 2021

I. General Information

A. Institution

University of Kansas

B. Program Identification

Degree Level: Bachelor's
Program Title: Project Management
Degree to be Offered: Bachelor of Science and Bachelor of Applied Science
Responsible Department or Unit: School of Professional Studies at the KU Edwards Campus
CIP Code: 52.0211
Modality: Online
Proposed Implementation Date: Fall 2022

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 /Program Description

The School of Professional Studies (SPS) at the KU Edwards Campus in Overland Park proposes to create two new online undergraduate degrees, the Bachelor of Science and Bachelor of Applied Science in Project Management (BS/BAS in PM). The program is designed for undergraduate students with a strong interest in understanding how theory and practice work together to solve real-world problems in a variety of fields who have already earned an associate's degree or equivalent hours and are looking to complete the last two years necessary for a bachelor's degree.

The BS/BAS in PM degree will be a Johnson County Education Research Triangle (JCERT) funded, 100% online completion degree for students transferring to KU Edwards. The PM program will provide students with the opportunity to provide the management knowledge and performance competencies which can be used by graduates from all disciplines involved in managing projects. Students will be able to partner the PM foundation with additional focus areas such as information technology management, construction management, health information management, railroad operations, or other areas of interest to focus their education on their desired career path.

According to the Project Management Institute (PMI), organizations and companies across sectors and geographic borders steadily embrace project management. It is a growing profession, on track to gain nearly 2.2 million new jobs globally each year through 2027. Its significant and sustained growth is driving an increasing demand for colleges and universities to offer courses and degree programs in project management.

Driven by globalization, evolving technology, and rapid automation of work processes, all types of organizations are placing growing emphasis on project-based planning, development, and even operations, to gain a competitive

advantage. Organizations recognize an expanding pool of project management specialists is crucial, and regional workforce development should meet this growing need.

With the KU Edwards campus offering baccalaureate degree completion programs, KU-Edwards anticipates students interested in pursuing the BS/BAS in PM to come primarily from community college partners in the KC metro area, including Johnson County Community College (JCCC), Kansas City Kansas Community College, and the Metropolitan Community College – Kansas City in Missouri. As KU-Edwards does not offer lower-division undergraduate (freshman-sophomore) courses, KU Edwards staff and faculty have worked with staff and faculty at metro area two-year colleges, primarily JCCC to align course offering and content with KU requirements and needs for seamless transfer of credit and progression from JCCC to Edwards. However, since the program is being offered online, it is recognized that students could come from community colleges across Kansas, and even nationwide. KU-Edwards staff and faculty will also work with the other community colleges across Kansas to promote the program and to align course offering and content with KU requirements and needs for transfer of credit and progression to this Edwards program.

In addition, by offering both a Bachelor of Science and a Bachelor of Applied Science in Project Management, KU-Edwards is able to offer additional flexibility to students transferring into the program as well as ensuring that the degree meets the student needs.

IV. Program Demand:

Market Analysis

The global economy has become more project-oriented, as the practice of project management expands within industries that were traditionally less project-oriented, such as health care, publishing and professional services. As a result of this shift, employers will need 87.7 million individuals working in project management oriented roles by 2027. Anderson Economic Group (AEG) and PMI analyzed project-oriented employment opportunity in 11 countries on five continents that represent developed and/or growing economic powers and concluded that project-related job growth is expected to be 33% collectively.

From 2017-2027, leading project management sectors are expecting significant job openings such as 9.7 million in manufacturing/construction, 5.5 million in information services/publishing, 4.6 million in finance/insurance, 1.7 million in management/professional services, 279,000 in utilities, and 49,000 in oil/gas. The US healthcare sector alone has seen the largest increase in project-oriented jobs, with 17% growth.

In addition, the 2008 analysis by PMI found that project management-oriented industries are a large and growing sector and failure to prepare future practitioners could result in hundreds of billions in lost economic output. A 2012 analysis showed similar results and found that future demand for project managers was growing faster than demand for workers in other occupations. This analysis also estimated that project-related jobs would number 52.4 million by 2020. By early 2017, the number of project management jobs had already reached almost 66 million, exceeding that original projection.

With this dramatic increase in project management roles and high attrition rates due to a retiring workforce, training new professionals in the project management field is crucial. This shortage of qualified talent poses a notable risk for organizations that rely on that talent to implement strategic initiatives, drive change and deliver innovation. This talent gap could result in a potential loss of over \$207.9 billion in GDP through 2027 for the 11 countries analyzed, which include the United States, Canada, China, Japan, India, and United Kingdom to name a few.

KU's School of Professional Studies currently offers project management at the graduate level, but in order to help meet employer and industry demands, KU would like to expand our offerings to include a BS and BAS in PM. According to the Global Accreditation Center for Project Management Education Programs (GAC), there

are 24 accredited bachelors programs and 15 of those are within the US. Those 15 programs are split between in person, hybrid and online formats with some having specific focus on business or information technology. KU will differentiate itself from these programs due to its connection with KU and the School of Professional Studies. The BS/BAS in PM will be one of the only GAC accredited programs offered at a R1 institution and the BAS program will be one of two accredited BAS programs. At its March 2021 meeting, the Board approved the School of Professional Studies to pursue GAC accreditation for the MS/ME in Project Management. There is no additional cost for adding the BS/BAS to the request to GAC accreditation and the program will hold on seeking accreditation until the BS/BAS development is complete.

By offering the program through the School of Professional Studies, KU is able to ensure an interdisciplinary approach to project management, which will allow students to explore a variety of emphasis areas and ensure that students have a broad approach to PM. Additionally, by offering the BS/BAS in PM program online, SPS is able to make this KU degree accessible to students across the state as well as nationwide. The Bachelor of Science (BS) option includes a BS core that provides solid preparation in math, science, and information systems as well as accounting and economics for students who wish to be project managers in technical fields or apply to graduate programs in those areas. The Bachelor of Applied Science (BAS) allows more flexibility and applied considerations, including room for a full minor in any field to be paired with the project management major and area of emphasis.

V. 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 | 10 | 0 | 300 | 0 |
| Year 2 | 10 | 10 | 600 | 150 |
| Year 3 | 20 | 15 | 900 | 375 |

VI. Employment

By 2027, employers will need 87.7 million individuals working in project management oriented roles. With a dramatic increase in project management roles and high attrition rates due to a retiring workforce, training new professionals in the project management field is crucial. From 2017-2027, leading project management sectors are expecting significant job openings such as 9.7 million in Manufacturing/Construction, 5.5 million in Information Services/Publishing, 4.6 million in Finance/Insurance, 1.7 million in Management/Professional Services, 279,000 in Utilities, and 49,000 in Oil/Gas.

Nationally, project management positions have a mean salary of \$80,220 with the rate of growth dependent on the sector. Advertising, promotions, and marketing project managers are expected to see 8% growth over the next 10 years, while those in construction, information technology, and financial project management are expected to see growth ranging from 10-16%.

Additionally, in the U.S. in 2017, wages of project management-oriented workers in projected industries were far higher on average than wages of non-project-oriented professionals—a premium of 82%. On a global basis, certification also bolsters salary levels as shown in *Earning Power: Project Management Salary Survey*. The ninth edition of PMI’s biennial report found that, among those surveyed, salaries of practitioners with the Project Management Professional (PMP)® certification are 20 % higher on average than those without a PMP®. With an expected increase in jobs, competitive salaries and the chance to make a difference, the future is bright for project professionals.

In the Metro Kansas City region, according to the US Bureau of Labor’s 2019 Metropolitan and

Nonmetropolitan Area Occupational Employment report, the mean salary for project management related occupations is between \$110,340 and \$148,880 depending on the sector of employment.

VII. Admission and Curriculum

A. Admission Criteria

Students must apply to KU Edwards and be admitted by the School of Professional Studies. Prior to entering the program, students must complete two (2) years of undergraduate college course work with a total of 60 semester credit hours and a cumulative GPA of at least 2.0.

B. Curriculum

The proposed BS/BAS in PM program is unique because it allows students to gain a thorough understanding of project management principles, while also focusing coursework in a variety of specializations such as health Informatics/healthcare, hospitality management, information technology, construction management, etc. The flexible curriculum of this program allows students to create an academic experience consistent with their career goals.

Since KU Edwards does not offer freshman-sophomore level courses the BS/BAS in PMGT is designed as an online degree completion program. Students are expected to complete the first two years at another campus, whether that be at one of our metro partners such as JCCC, MCC, or KCKCC or elsewhere. Courses for Year 1 and 2 listed below are KU courses for which students will transfer in equivalent courses. A full list of requirements can be found in Appendix A.

Bachelor of Science in Project Management

Year 1: Fall

SCH = Semester Credit Hours

| Course # | Course Name | SCH: 14 |
|----------|---|---------|
| CHEM 130 | Foundations of Chemistry I (KU Core 3N) | 5 |
| MATH 101 | College Algebra (KU Core 1.2) | 3 |
| ENGL 101 | Composition (KU Core 2.1) | 3 |
| | Emphasis Area Course 1 | 3 |

Year 1: Spring

| Course # | Course Name | SCH: 15 |
|----------|--|---------|
| COMS 130 | Speaker-Audience Com (KU Core 2.2) | 3 |
| Core 3H | Arts and Humanities Course | 3 |
| ENGL 102 | Critical Reading and Writing (KU Core 2.1) | 3 |
| Core 1.1 | Critical Thinking Course | 3 |
| | Emphasis Area Course 2 | 3 |

Year 2: Fall

| Course # | Course Name | SCH: 16 |
|----------|---|---------|
| MATH 115 | Calculus I | 3 |
| Core 4.1 | Human Diversity Course | 3 |
| ECON 142 | Principles of Microeconomics (KU Core 3S) | 4 |
| | Emphasis Area Course 3 | 3 |

| | | |
|--|------------------------|---|
| | Emphasis Area Course 4 | 3 |
|--|------------------------|---|

Year 2: Spring

| Course # | Course Name | SCH: 15 |
|----------|---------------------------------------|---------|
| ACCT 200 | Financial Accounting | 3 |
| IST 205 | Survey of Information Systems | 3 |
| Core 4.2 | Culture, Diversity & Global Awareness | 3 |
| | Emphasis Area Course 5 | 3 |
| | Emphasis Area Course 6 | 3 |

Year 3 and 4 courses are offered online at the KU Edwards campus.

Year 3: Fall

| Course # | Course Name | SCH: 15 |
|----------|-----------------------------------|---------|
| PMGT 305 | Foundations of Project Management | 3 |
| PMGT 310 | Project Communications | 3 |
| PMGT 320 | Introduction to Microsoft Project | 3 |
| MATH 365 | Statistics | 3 |
| | Emphasis Area Course 7 | 3 |

Year 3: Spring

| Course # | Course Name | SCH: 15 |
|----------|-----------------------------------|---------|
| PMGT 315 | Project Scheduling and Control | 3 |
| PMGT 325 | Effective Project Team Leadership | 3 |
| PMGT 335 | Project Stakeholder Engagement | 3 |
| PMGT | PM Elective 1 | 3 |
| | Elective/ Minor Course | 3 |

Year 4: Fall

| Course # | Course Name | SCH: 15 |
|----------|---|---------|
| PMGT 330 | Organizational Strategy & Project Initiation | 3 |
| PMGT 410 | Managing Project Success | 3 |
| PMGT 415 | Project Procurement and Supply Chain Management | 3 |
| PMGT | PM Elective 2 | 3 |
| | Elective/ Minor Course | 3 |

Year 4: Spring

| Course # | Course Name | SCH: 15 |
|----------|--|---------|
| PMGT 405 | Organizational & Project Risk Management | 3 |
| PMGT 420 | Emerging Trends in Project Management | 3 |
| Core 5.1 | Social Responsibility and Ethics | 3 |
| PMGT | PM Elective 3 | 3 |
| PMGT 599 | Project Management Capstone | 3 |

Total Number of Semester Credit Hours [120]

Bachelor of Applied Science in Project Management

Year 1: Fall

SCH = Semester Credit Hours

| Course # | Course Name | SCH: 15 |
|----------|-------------------------------|---------|
| Core 3N | Natural Science Course | 3 |
| MATH 101 | College Algebra (KU Core 1.2) | 3 |
| ENGL 101 | Composition (KU Core 2.1) | 3 |
| | Emphasis Area Course 1 | 3 |
| | Elective/Minor | 3 |

Year 1: Spring

| Course # | Course Name | SCH: 15 |
|----------|--|---------|
| COMS 130 | Speaker-Audience Com (KU Core 2.2) | 3 |
| Core 3H | Arts and Humanities Course | 3 |
| ENGL 102 | Critical Reading and Writing (KU Core 2.1) | 3 |
| Core 1.1 | Critical Thinking Course | 3 |
| | Emphasis Area Course 2 | 3 |

Year 2: Fall

| Course # | Course Name | SCH: 15 |
|----------|------------------------|---------|
| Core 4.1 | Human Diversity Course | 3 |
| Core 3S | Social Sciences Course | 3 |
| | Emphasis Area Course 3 | 3 |
| | Emphasis Area Course 4 | 3 |
| | Elective/ Minor Course | 3 |

Year 2: Spring

| Course # | Course Name | SCH: 15 |
|----------|---------------------------------------|---------|
| MATH 365 | Statistics | 3 |
| Core 4.2 | Culture, Diversity & Global Awareness | 3 |
| | Emphasis Area Course 5 | 3 |
| | Emphasis Area Course 6 | 3 |
| | Emphasis Area Course 7 | 3 |

Year 3 and 4 courses are offered online at the KU Edwards campus.

Year 3: Fall

| Course # | Course Name | SCH: 15 |
|----------|-----------------------------------|---------|
| PMGT 305 | Foundations of Project Management | 3 |
| PMGT 310 | Project Communications | 3 |
| PMGT 320 | Introduction to Microsoft Project | 3 |
| | Elective/ Minor Course | 3 |
| | Elective/ Minor Course | 3 |

Year 3: Spring

| Course # | Course Name | SCH: 15 |
|----------|-----------------------------------|---------|
| PMGT 315 | Project Scheduling and Control | 3 |
| PMGT 325 | Effective Project Team Leadership | 3 |
| PMGT | PM Elective 1 | 3 |
| PMGT 335 | Project Stakeholder Engagement | 3 |
| | Elective/ Minor Course | 3 |

Year 4: Fall

| Course # | Course Name | SCH: 15 |
|----------|---|---------|
| PMGT 330 | Organizational Strategy & Project Initiation | 3 |
| PMGT 410 | Managing Project Success | 3 |
| PMGT 415 | Project Procurement and Supply Chain Management | 3 |
| PMGT | PM Elective 2 | 3 |
| | Elective/ Minor Course | 3 |

Year 4: Spring

| Course # | Course Name | SCH: 15 |
|----------|--|---------|
| PMGT 405 | Organizational & Project Risk Management | 3 |
| PMGT 420 | Emerging Trends in Project Management | 3 |
| Core 5.1 | Social Responsibility and Ethics | 3 |
| PMGT | PM Elective 3 | 3 |
| PMGT 599 | Project Management Capstone | 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 |
|--------------------------------------|---|----------------|------------------|---|-------------------------|
| John Brickleyer* | Professor of the Practice/ Program Director | ME/MIM | N | Engineering Management/Project Management | .5 |
| Vacant Position: To Be Hired (FY 21) | Professor of Practice | Ph.D./MS | N | TBD | .5 |
| New Faculty: To Be Hired (Year 3) | Professor of Practice | Ph.D./MS | N | TBD | 1.0 |
| James Lourentzos | Lecturer | MBA | N | Financial Management | .25 |
| Ravi Baburajan | Lecturer | ME/MBA | N | Engineering Management/Business | .25 |
| Karina Addari | Lecturer | Ph.D. | N | Supply Chain Management | .25 |

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

IX. 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 | \$52,000 | \$52,000 | \$52,000 |
| Administrators (<i>other than instruction time</i>) | \$40,500 | \$41,050 | \$41,611 |
| Graduate Assistants | | | |
| Support Staff for Administration (<i>e.g., secretarial</i>) | | | |
| Fringe Benefits (<i>total for all groups</i>) | \$18,500 | \$18,610 | \$18,722 |
| Other Personnel Costs | | | |
| Total Existing Personnel Costs – Reassigned or Existing | \$111,000 | \$111,660 | \$112,333 |
| | | | |
| Personnel – New Positions | | | |
| Faculty | \$60,000 | \$60,000 | \$ 150,000 |
| Administrators (<i>other than instruction time</i>) | | | |
| Graduate Assistants | | | |
| Support Staff for Administration (<i>e.g., secretarial</i>) | | | |
| Fringe Benefits (<i>total for all groups</i>) | \$17,713 | \$18,059 | \$36,422 |
| Other Personnel Costs | | | |
| Total Existing Personnel Costs – New Positions | \$77,713 | \$78,059 | \$186,422 |
| | | | |
| Start-up Costs - One-Time Expenses | | | |
| Library/learning resources | | | |
| Equipment/Technology | | | |
| Physical Facilities: Construction or Renovation | | | |
| Other- Online Course Development | \$15,000 | \$15,000 | |
| Total Start-up Costs | \$15,000 | \$15,000 | \$0 |
| | | | |
| Operating Costs – Recurring Expenses | | | |
| Supplies/Expenses | | | |
| Library/learning resources | \$500 | \$500 | \$500 |
| Equipment/Technology | | | |
| Travel | | | |
| Other | \$13,900 | \$13,900 | \$15,300 |
| Total Operating Costs | \$14,400 | \$14,400 | \$15,800 |
| | | | |
| GRAND TOTAL COSTS | \$218,113 | \$219,119 | \$314,555 |

| B. FUNDING SOURCES <i>(projected as appropriate)</i> | First FY (New) | Second FY (New) | Third FY (New) |
|---|-------------------|--------------------|-------------------|
| Tuition / State Funds | \$145,500 | \$363,750 | \$618,375 |
| Student Fees | \$0 | \$0 | \$0 |
| Other Sources | \$70,113 | \$0 | \$0 |
| GRAND TOTAL FUNDING | \$215,613 | \$363,750 | \$618,375 |
| | | | |
| C. Projected Surplus/Deficit (+/-) (Grand Total Funding <i>minus</i> Grand Total Costs) | \$(2,500) | \$144,631 | \$303,820 |

X. Expenditures and Funding Sources Explanations

A. Expenditures

Personnel – Reassigned or Existing Positions

The current program director for the MS/ME in Project Management program will also serve as the program director for the BS/BAS program. The program director's salary has been split between the MS/ME in Project Management program and the BS/BAS Project Management program at a rate of .50 and .50 and the BS/BAS will cover 50% of the salary and fringe. His appointment to the BS/BAS program will be split between teaching and administration at a .80/.20 split or \$52,000 for teaching and \$13,000 for administration. A current academic success coach will be assigned to work with the BS/BAS in PM program. The PM program will make up 50% of their student load and the PM program will fund 50% of salary and fringe.

Personnel – New Positions

The BS/BAS in PM program will be hiring a new full-time faculty member in the first year to teach in the program as well as help fill a current vacancy that is needed to be filled for the master's program. The new faculty member will be 100% teaching. The BS/BAS in PM program utilizes existing faculty and lecturer support from the MS/ME in Project Management. Although these faculty resources are currently available, overload pay or additional lecturer funding is being allocated. Due to anticipated student demand, an additional faculty member will be hired in the third year.

Start-up Costs – One-Time Expenses

In order to ensure a successful launch of the online program, SPS has designated \$15,000 for online course development for each of the first two years. These funds will provide faculty with additional resources to develop the courses needed for the program outside of their teaching loads.

Operating Costs – Recurring Expenses

All equipment, library, and supplies have been accounted for in the existing services provided to KU Edwards students and no additional cost will be associated with the program. The KU Edwards Campus is allocating \$500 each year for instructional resources, \$2,500 each year for recruitment efforts, and \$10,000 each year for marketing efforts. In addition, the program director will receive \$1,400 each year for professional development.

B. Revenue: Funding Sources

The BS/BAS in PM program is a Johnson County Education and Research Triangle* (JCERT) funded program. The program will be fully funded through JCERT funds and tuition revenue. No state funds will be utilized. JCERT funds will be used to help fund the program during the implementation year until the program is revenue generating and sustainable on tuition funds alone. BS/BAS in PM students will be charged an all-inclusive tuition rate of \$485 per credit hour to ensure that the program is affordable and accessible to all students, nationwide. The Edwards Campus Fee and Edwards Programs Course Fee will be backed out of the all-inclusive rate and allocated to the services that those fees support.

* The Johnson County Education Research Triangle (JCERT) is a unique partnership between Johnson County, the University of Kansas and Kansas State University. Its goal is to create economic stimulus and a higher quality of life through new facilities for research and educational opportunities. In November 2008, Johnson County voters invested in the county's future by voting for a 1/8-cent sales tax to fund JCERT initiatives, including development of the National Food and Animal Health Institute at K-State Olathe; the KU Clinical Research Center in Fairway, Kansas; and here at KU Edwards, the BEST Building with several degree and certificate offerings in business, engineering, science and technology.

C. Projected Surplus/Deficit

Given the anticipated costs and revenue, the program is expected to run a deficit in the first year of implementation. JCERT funds will be used to help fund the program during the implementation year until the program is revenue generating and sustainable on tuition funds alone. With the current enrollment estimates, the BS/BAS in PM program is expected to have a revenue surplus. These funds will be utilized to help improve the overall student experience and provide additional funding

XI. References

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- National Center for Education Statistics (NCES) Home Page, part of the U.S. Department of Education. (n.d.). Retrieved from <https://nces.ed.gov/>
- Project Management Institute. (n.d.). Retrieved August 27, 2020, from <https://www.pmi.org/>
- Project Management Job Growth and Talent Gap Report 2017-2027* (pp. 1-10, Rep.). (2017). Newton Square, PA: Project Management Institute.
- U.S. Bureau of Labor Statistics. (2020, April 21). Retrieved from <https://www.bls.gov/>

Appendix A:

The proposed Bachelor of Science in Project Management is comprised of seven parts:

- KU Core Requirements: 24 credit hours
 - Core 1.1: Critical Thinking Course
 - Core 1.2: Quantitative Literacy Course: *Fulfilled by BS Core*
 - Core 2.1: Communication Course: *ENGL 101 Composition*
 - Core 2.1: Communication Course: *ENGL 102 Critical Reading and Writing or BUS 305 Business Writing*
 - Core 2.2: Communication Course: *COMS 130 Speaker-Audience Communication*
 - Core 3H: Arts and Humanities Course
 - Core 3N: Natural Sciences Course: *Fulfilled by BS Core*
 - Core 3S: Social Sciences Courses: *Fulfilled by BS Core*
 - Core 4.1: Human Diversity Course
 - Core 4.2: Global Culture/Awareness Course
 - Core 5.1: Social Responsibility and Ethics Course
 - Core 6: Integration and Creativity Course: *Fulfilled by Major*
- Bachelor of Science Core Courses: 24 Credits
 - MATH 101: College Algebra
 - MATH 115: Calculus I
 - MATH 365: Statistics
 - CHEM 130: Foundations of Chemistry I (or a physical science course with lab)
 - ACCT 200: Financial Accounting
 - IST 205: Survey of Information Systems
 - ECON 142 Principles of Microeconomics or ECON 144 Principles of Macroeconomics
- Project Management Sequence Courses: 33 credit hours
 - PMGT 305: Foundations of Project Management
 - PMGT 310: Project Communications
 - PMGT 315: Project Scheduling and Control
 - PMGT 320: Introduction to Microsoft Project
 - PMGT 325: Effective Project Team Leadership
 - PMGT 405: Organizational & Project Risk Management
 - PMGT 330: Organizational Strategy & Project Initiation
 - PMGT 410: Managing Project Success
 - PMGT 415: Project Procurement and Supply Chain Management
 - PMGT 335: Project Stakeholder Engagement
 - PMGT 420: Emerging Trends in Project Management
- Emphasis Area Courses: 21 credit hours
 - Twenty-one (21) credit hours of emphasis area courses are to be completed at KU or transferred from another institution
- PMGT Elective Courses: 9 credit hours of the courses below
 - PMGT 425: Global Project Management
 - PMGT 510: Advanced Agile Approaches to Project Management
 - PMGT 430: Managing Virtual Project Teams
 - PMGT 520: Advanced Microsoft Project
- Electives or Minor Courses: 6 credit hours
 - Six (6) credit hours of upper-division courses (300+ level or above) are allocated for electives or to count towards a minor
 - Emphasis area course may be eligible to count towards Minor.

- Capstone
 - PMGT 599: Project Management Capstone (3 credit hours)

The proposed Bachelor of Applied Science in Project Management is comprised of six parts:

- KU Core Requirements: 33 credit hours
 - Core 1.1: Critical Thinking Course
 - Core 1.2: Quantitative Literacy Course: *MATH 101: College Algebra*
 - Core 2.1: Communication Course: *ENGL 101 Composition*
 - Core 2.1: Communication Course: *ENGL 102 Critical Reading and Writing or BUS 305 Business Writing*
 - Core 2.2: Communication Course: *COMS 130 Speaker-Audience Communication*
 - Core 3H: Arts and Humanities Course
 - Core 3N: Natural Science Course
 - Core 3S: Social Sciences Course
 - Core 4.1: Human Diversity Course
 - Core 4.2: Global Culture/Awareness Course
 - Core 5.1: Social Responsibility and Ethics Course
 - Core 6: Integration and Creativity Course: *Fulfilled by Major*
- BAS Project Management Sequence Courses: 36 credit hours
 - MATH 365: Statistics
 - PMGT 305: Foundations of Project Management
 - PMGT 310: Project Communications
 - PMGT 315: Project Scheduling and Control
 - PMGT 320: Introduction to Microsoft Project
 - PMGT 325: Effective Project Team Leadership
 - PMGT 405: Organizational & Project Risk Management
 - PMGT 330: Organizational Strategy & Project Initiation
 - PMGT 410: Managing Project Success
 - PMGT 415: Project Procurement and Supply Chain Management
 - PMGT 335: Project Stakeholder Engagement
 - PMGT 420: Emerging Trends in Project Management
- Emphasis Area Courses: 21 credit hours
 - Twenty-one (21) credit hours of emphasis area courses are to be completed at KU or transferred from another institution
- PMGT Elective Courses: 9 credit hours of the courses below
 - PMGT 425: Global Project Management
 - PMGT 510: Advanced Agile Approaches to Project Management
 - PMGT 430: Managing Virtual Project Teams
 - PMGT 520: Advanced Microsoft Project
- Upper-Division General Electives or Minor: 18 credit hours
 - Eighteen (18) credit hours of upper-division courses (300+ level or above) are allocated for electives or for a minor
 - Emphasis area course may be eligible to count towards Minor.
- Capstone
 - PMGT 599: Project Management Capstone (3 credit hours)

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.

December 15, 2021

I. General Information

A. Institution

University of Kansas

B. Program Identification

Degree Level: Master's
Program Title: Electrical Engineering and Computer Science
Degree to be Offered: Master of Engineering
Responsible Department or Unit: School of Engineering
CIP Code: 14.4701
Modality: Face-to-Face
Proposed Implementation Date: Fall 2022

Total Number of Semester Credit Hours for the Degree: 31

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

III. Justification

The proposed degree program reflects the mission statement of KU and its commitment “to lift students and society by educating leaders, building healthy communities and making discoveries that change the world”.

The justification for the new M.Eng. in EECS degree is to attract students and regional professionals whose focus is on working in industry and who are looking to further their education. A coursework-based master's degree will offer flexibility for professionals seeking a degree in the field in which they are employed and who may already be engaged in related workplace projects. The M.Eng. degree program will provide coursework directly related to the students' professional focus, without requiring non-course-based components that do not always fit well with this professional orientation. The current M.S. degree programs in the department of Electrical Engineering and Computer Science (EECS) require a project or research component, which is at times a substantial hurdle and deterrent for many people that want to further their education and are interested in a career in industry, but are unable to allocate the time and interest to develop the substantial project or research component, write the document and defend the work. The new M.Eng. degree option will remove this major barrier and encourage and enable more students and professionals to pursue a graduate degree program that is better aligned with their career goals.

The coursework-only M.Eng. in EECS degree will also be an efficient way for those who recently graduated with an EECS undergraduate degree to get more in-depth background and credentials in their fields of interest prior to seeking employment in industry. The degree will prepare students to be more effective in their careers as industry professionals and with entrepreneurship in a start-up company. The different degree title (Master's of Engineering, M.Eng. in EECS) will help distinguish the coursework-only Master's students (graduates) from the Master's of Science (M.S.) students (graduates) who have completed a project/research as part of their degree.

Overall, the M.Eng. in EECS degree will provide additional options for students seeking advanced degrees that can better meet their learning and professional goals.

IV. Program Demand: Select one or both of the following to address student demand:

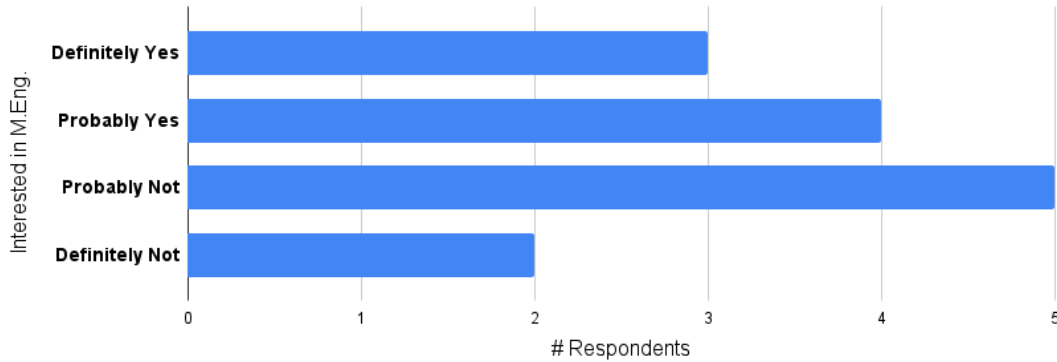
A. Survey of Student Interest

| | |
|---|--------------------------|
| Number of surveys administered: | 500 (430 UG + 70 Grad) |
| Number of completed surveys returned: | 88 (50 UG + 38 Grad) |
| Percentage of students interested in program: ... | 61.36% (35 UG + 19 Grad) |

Many current (undergraduate and graduate) students in the EECS department at KU have expressed immense interest in this proposed M.Eng. degree program. The department conducted a survey to determine student interest in this new program, which was sent to all junior and senior undergraduate and all M.S. graduate students in the department. 50 undergraduate students and 38 graduate students responded to the survey. We find from the survey that about 72% (36/50) of the undergraduate respondents were already interested in pursuing a graduate degree at KU.

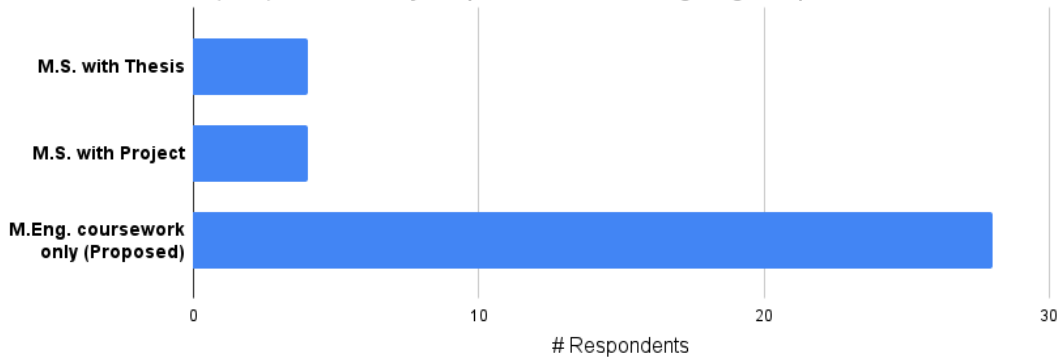
Interestingly, our survey found that (Figure 1) of the 14 undergraduate respondents that were not already interested in the existing M.S. degree option in EECS at KU, 7 (50%) said that they will be interested in pursuing the new M.Eng. degree program. This statistic shows the potential of the new M.Eng. program to increase student enrollment in the graduate program in EECS at KU.

Figure 1. 50% of the undergraduate respondents that were NOT already interested in the existing M.S. degree in EECS at KU are interested in the new M.Eng. degree program



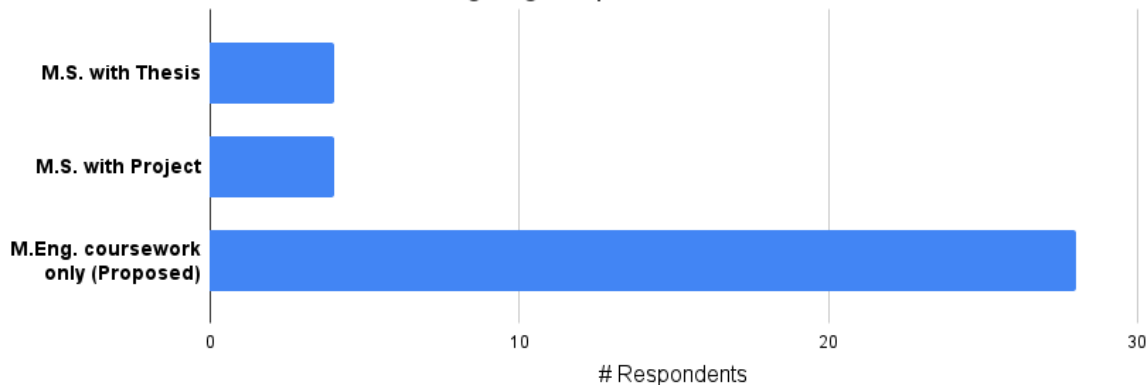
Our survey further finds that (Figure 2) of the 36 undergraduate respondents that are interested in the current Master’s program in EECS, 28 (about 78%) said that they will pursue the new M.Eng. program, if available, given its match with their professional goals.

Figure 2. Of the 36 undergraduate respondents already interested in the M.S. degree in EECS, 28 (78%) said that they will prefer the new M.Eng. degree option



Finally, we find that (Figure 3) of the 38 current graduate students that responded to the survey, 19 (50%) said that they will switch to the new M.Eng. program, if offered.

Figure 3. 19 of the 38 graduate M.S. student respondents (50%) said that they will prefer to pursue the M.Eng. degree option, if available



Thus, this survey unequivocally shows the large excitement in our current student population for this new M.Eng. in EECS degree program.

Additionally, we also have anecdotal evidence that industry professionals from the Kansas City Metropolitan area are interested in this new degree program, and are much more likely to pursue graduate school in EECS at KU if such a program were available.

B. Market Analysis

University of Missouri-Kansas City (UMKC) and Kansas State University (K-State) are the two universities in the Kansas City region that compete directly with the University of Kansas for students in the EECS disciplines. UMKC offers non-thesis/coursework-only degree options in Computer Science and Electrical Engineering.

While no other university in the state offers a master’s degree in the proposed CIP code of 14.4701, K-State offers a coursework-only master’s degree option in Computer Science (that requires writing a major paper), Computer Engineering and Electrical Engineering. While outside the Kansas City region, Wichita State offers an MS in Electrical and Computer Engineering with an option for either a thesis, project or coursework. The industry focused coursework-only Master’s degree option is also offered by many other Universities in the country, which suggests that this is a popular and sustainable model for Master’s degree programs in EECS.

The American Association for Engineering Education (ASEE) report from July 2019 shows a continuing trend of increasing enrollment in master’s engineering programs. They report that Electrical Engineering and Computer Science are among the top three engineering disciplines representing 39% of all engineering master’s graduates (the third being Mechanical Engineering). This data suggests that there will continue to remain sufficient interest in the Master’s offerings in EECS at KU.

Additionally, the EECS department at KU has seen a drop in M.S. applications in the past few years and all M.S. degrees in the EECS department require a thesis or a project. The proposed M.Eng. in EECS degree has the potential to increase applications and enrollment given it does not require a thesis or major project.

Given the large interest in the new M.Eng. degree program from our own undergraduate student population and professionals who would otherwise not be interested in pursuing graduate education at KU, the exceptional reputation of the EECS department at KU among professionals the Kansas City (KC) area, and the locational advantage of KU in the KC region give us high confidence that there is sufficient interest in the new M.Eng. in EECS degree program to sustain the degree help raise graduate enrollments in EECS at KU.

V. 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 | 14 | 1 | 434 | 7 |
| Year 2 | 18 | 2 | 558 | 20 |
| Year 3 | 22 | 3 | 682 | 39 |

VI. Employment

The job outlook for Master’s program graduates in Electrical Engineering, Computer Engineering, and Computer Science remains bright, in spite of the effects of the COVID-19 pandemic.

The Bureau of Labor Statistics (BLS) projects jobs for computer and information technology occupations will grow 11% from 2019 to 2029 (2021). This is significantly faster than the projected growth rate for all occupations nationwide. Some Computer Science jobs, such as computer and information research scientists, are projected to grow even more quickly at 15% and typically need at least a master’s degree in computer science or a related field. Overall employment of electrical and electronics engineers is projected to grow 3 percent from 2019 to 2029. Electrical Engineering, Computer Engineering and Computer Science are all in the top 10 highest paying Master’s degrees, according to the popular employment website, Monster (2021).

There is a vibrant and growing technology and engineering industrial sector in the KC metro area, including firms such as Garmin, Cerner, Sprint, and Honeywell, that hire our graduates and continue to expand. Thus, Electrical and Computer Engineering and Computer Science continue to remain appealing degree options for the interesting area of work, the strong job market and the competitive compensation.

Additionally, we expect some professionals in this program to be currently employed as they pursue the M.Eng. degree. These students will either work on their degree part-time or will take a leave of absence to complete the degree in an accelerated manner on a full-time basis. These students will have almost certain employment (and new internal and/or external opportunities) upon degree completion.

VII. Admission and Curriculum

This proposed University of Kansas (KU) Master's of Engineering (M.Eng.) degree in Electrical Engineering

and Computer Science (EECS) will be a coursework only master's degree. The degree structure is very similar to the existing Master of Science (M.S.) degree programs offered by the EECS department at the University of Kansas. The primary difference is the replacement of the project/research component (that is required by the M.S. degree programs) with an equal number of credit hours of coursework.

A. Admission Criteria

The application process and admission requirements will mirror those for the current M.S. degree programs in the EECS department. Students will apply to the EECS department for the M.Eng. in EECS degree. The application will include a CV, personal statement, academic transcripts, GRE scores, TOEFL scores (when required by the University), and letters of recommendation. The departmental graduate committee (five total members and chaired by the EECS Graduate Director) will review all applications and make admission decisions based on the merits of the overall application packet.

Typical admission requirements for the M.Eng. degree in EECS will remain the same as the existing M.S. degrees in EECS, and include:

- Undergraduate degree in Electrical Engineering, Computer Engineering, Computer Science, or related fields.
- GPA at or above 3.0 on a 4.0 point scale
- GRE scores: 146+ verbal, 155+ quantitative
- Three letters of recommendation
- TOEFL scores at or above 90 on an internet-based exam (or equivalent) for international students only as required by the University.

B. Curriculum

Students select one of the three *tracks*, Electrical Engineering, Computer Engineering, or Computer Science for their M.Eng. degree program. All the tracks have the same curricular structure, which is as follows:

- Students work with an advisor familiar with their selected track area to develop a formal *plan of study*. Every student can select or be assigned a faculty advisor in their first semester. The student will work with their faculty advisor to develop a plan of study that includes courses that are consistent with the student's academic background and identified degree and goals.
- Every plan of study will consist of 30 coursework credits and 1 additional credit of [EECS 802](#). EECS 802 Colloquium/Seminar provides professional development, additional exposure to the breadth of applications in EECS, and covers professional engineering ethics, particularly as applicable and important for individuals in industry.
- M.Eng. plans of study that follow the "*predefined course lists*" (found in attachment 1 and similar to those used by our current M.S. degree programs) will be automatically approved by the EECS graduate committee. A predefined plan of study includes:
 - 4 courses from the "Foundational" or "Core" course list
 - 5 courses from the "Elective" course list
 - 1 open elective course related to the student's professional goals
 - at least one semester of EECS Colloquium ([EECS 802](#))
 - a maximum of 2 courses numbered between 500-699 may be counted toward the hours required for the degree.
- The M.Eng. program will have one *predefined course list* for each track (Computer Science, Computer Engineering, or Electrical Engineering). Please see attachment 1 for the predefined course lists for each track.
- M.Eng. plans of study not following a predefined course list will be required to have the EECS graduate committee assess the submitted plan of study, goals and justification.

- Every M.Eng. in EECS plan of study must adhere to the following rules: (i) a total of 30 hours of regular coursework, (ii) EECS 802, (iii) minimum of 7 EECS courses numbered 700 or higher, (iv) maximum of 9 hours outside the department, (v) maximum of 2 courses numbered between 500-699.

Year 1: Fall

SCH = Semester Credit Hours

| Course # | Course Name | SCH.... |
|----------|--|---------|
| EECS 801 | EECS Colloquium and Professional Development | 01 |
| EECS | Track Core Course 1 | 03 |
| EECS | Track Core Course 2 | 03 |
| EECS | Track Elective Course 1 | 03 |
| EECS | Track Elective Course 2 | 03 |
| EECS | Track Elective Course 3 | 03 |

Year 1: Spring

| Course # | Course Name | SCH.... |
|----------|-------------------------|---------|
| EECS | Track Core Course 3 | 03 |
| EECS | Track Core Course 4 | 03 |
| EECS | Track Elective Course 4 | 03 |
| EECS | Track Elective Course 5 | 03 |
| | Open Elective | 03 |

Total Number of Semester Credit Hours 31

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 |
|-------------------|-------------------------|----------------|--------------------|---------------------------------|-------------------------|
| Perry Alexander | Distinguished Professor | Ph.D. | Y | Computer Science | 0.034 |
| Mohammad Alian | Assistant Professor | Ph.D. | Y | Computer Engineering | 0.034 |
| Christopher Allen | Professor | Ph.D. | Y | Electrical Engineering | 0.034 |
| Alexandru Bardas | Assistant Professor | Ph.D. | Y | Computer Science | 0.034 |
| Shannon Blunt | Distinguished Professor | Ph.D. | Y | Electrical Engineering | 0.034 |
| Michael Branicky | Professor | Ph.D. | Y | Computer Science | 0.034 |
| Drew Davidson | Assistant Professor | Ph.D. | Y | Computer Science | 0.034 |
| Kenneth Demarest | Professor | Ph.D. | Y | Electrical Engineering | 0.034 |
| Esam El-Araby | Assistant Professor | Ph.D. | Y | Computer Engineering | 0.034 |
| Shima Fardad | Assistant Professor | Ph.D. | Y | Electrical Engineering | 0.034 |
| Victor Frost | Distinguished Professor | Ph.D. | Y | Electrical Engineering | 0.034 |
| John Gibbons | Teaching Professor | Ph.D. | N | Computer Science | 0.034 |
| Morteza Hashemi | Assistant Professor | Ph.D. | Y | Electrical Engineering | 0.034 |
| Tamzidul Hoque | Assistant Professor | Ph.D. | Y | Computer Engineering | 0.034 |

| | | | | | |
|------------------|---------------------|-------|---|------------------------|-------|
| Rongqing Hui | Professor | Ph.D. | Y | Electrical Engineering | 0.034 |
| David Johnson | Teaching Professor | Ph.D. | N | Electrical Engineering | 0.034 |
| Taejoon Kim | Assistant Professor | Ph.D. | Y | Electrical Engineering | 0.034 |
| Prasad Kulkarni* | Professor | Ph.D. | Y | Computer Science | 0.034 |
| Carlton Leuschen | Professor | Ph.D. | Y | Electrical Engineering | 0.034 |
| Fengjun Li | Associate Professor | Ph.D. | Y | Computer Science | 0.034 |
| Bo Luo | Professor | Ph.D. | Y | Computer Science | 0.034 |
| Matthew Moore | Assistant Professor | Ph.D. | Y | Computer Science | 0.034 |
| Erik Perrins | Professor | Ph.D. | Y | Electrical Engineering | 0.034 |
| David Petr | Professor | Ph.D. | Y | Electrical Engineering | 0.034 |
| Hossein Saiedian | Professor | Ph.D. | Y | Computer Science | 0.034 |
| Alessandro | Associate Professor | Ph.D. | Y | Electrical Engineering | 0.034 |
| Suzanne Shontz | Professor | Ph.D. | Y | Computer Science | 0.034 |
| James Stiles | Professor | Ph.D. | Y | Electrical Engineering | 0.034 |
| Hongyang Sun | Assistant Professor | Ph.D. | Y | Computer Science | 0.034 |
| Zijun Yao | Assistant Professor | Ph.D. | Y | Computer Science | 0.034 |
| Heechul Yun | Associate Professor | Ph.D. | Y | Computer Engineering | 0.034 |
| Cuncong Zhong | Assistant Professor | Ph.D. | Y | Computer Science | 0.034 |

Number of graduate assistants assigned to this program 0

IX. 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 | \$129,188.92 | \$129,188.92 | \$129,188.92 |
| Administrators (other than instruction time) | \$10,975.90 | \$10,975.90 | \$10,975.90 |
| Graduate Assistants | 0 | 0 | 0 |
| Support Staff for Administration (e.g., secretarial) | 8,507.6 | 8,507.6 | 8,507.6 |
| Fringe Benefits (total for all groups) | \$52,035.35 | \$52,035.35 | \$52,035.35 |
| Other Personnel Costs | | | |
| Total Existing Personnel Costs – Reassigned or Existing | \$200,707.77 | \$200,707.77 | \$200,707.77 |
| | | | |
| 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 | \$200,707.77 | \$200,707.77 | \$200,707.77 |

| B. FUNDING SOURCES <i>(projected as appropriate)</i> | Current | First FY (New) | Second FY (New) | Third FY (New) |
|---|---------|-------------------|--------------------|-------------------|
| Tuition / State Funds | | \$184,867.20 | \$242,297.60 | \$302,243.20 |
| Student Fees | | \$24,122.70 | \$31,616.60 | \$39,438.70 |
| Other Sources | | 0 | 0 | 0 |
| GRAND TOTAL FUNDING | | \$208,989.90 | \$273,914.20 | \$341,681.90 |
| | | | | |
| C. Projected Surplus/Deficit (+/-) (Grand Total Funding <i>minus</i> Grand Total Costs) | | \$8,282.13 | \$73,206.43 | \$140,974.13 |

X. Expenditures and Funding Sources Explanations

A. Expenditures

Personnel – Reassigned or Existing Positions

The current EECS Graduate Program Director (0.1 FTE faculty) and Graduate Program Coordinator (0.2 FTE staff) will administer this degree program, along with the existing Master of Science and Doctoral degree programs in EECS. Most faculty in the department are expected to teach graduate-level classes that will have M.Eng. degree program students in their classes along with students from the existing M.S. and Ph.D. graduate

programs. EECS faculty typically teach about one *graduate* class per year, which is calculated as 0.1 FTE. Since each graduate class will have a mix of M.Eng., M.S., and Ph.D. degree students, 1/3rd of 0.1 FTE (or 0.034 FTE) for each faculty member is allocated to the M.Eng. program.

Personnel – New Positions

No new positions are required for instruction or to administer this degree program.

Start-up Costs – One-Time Expenses

No new resources are required to initiate this degree program.

Operating Costs – Recurring Expenses

No new resources are required for operating costs of this degree program.

B. Revenue: Funding Sources

Funding for the program will be through tuition and student fees. We expect primarily Kansas residents and those qualifying for in-state tuition will be interested in the M.Eng. program. The current in-state tuition and student fees for Engineering graduate students are \$419.20/credit hour and \$54.70/credit hour, respectively. The projected *student semester credit hours* from Section V (along with the tuition and fees given above) are used to calculate the revenue from funding sources generated by this program. We have conservatively estimated the number of students interested in the program and expect the program to meet KBOR minimum requirements for enrollments and graduates within three years of inception.

C. Projected Surplus/Deficit

Our budget estimate indicates the degree program will run a surplus beginning in Year 1.

XI. References

U.S. Bureau of Labor Statistics. (2021). Occupational Outlook Handbook: Computer and Information Technology Occupations. <https://www.bls.gov/ooh/computer-and-information-technology/home.htm>.

U.S. Bureau of Labor Statistics. (2021). Occupational Outlook Handbook,; Electrical and Electronics Engineers. <https://www.bls.gov/ooh/architecture-and-engineering/electrical-and-electronics-engineers.htm>.

Monster, Inc. (2021). Best Master's Degrees. <https://www.monster.com/career-advice/article/best-and-worst-paying-masters-degrees>.

American Association for Engineering Education (ASEE). (2019). Engineering by the Numbers. <https://ira.asee.org/wp-content/uploads/2019/07/2018-Engineering-by-Numbers-Engineering-Statistics-UPDATED-15-July-2019.pdf>.

Attachment 1: Predefined Course Lists for M.Eng. in EECS

Computer Science Track Predefined Course List

Foundational/Core Computer Science Courses

| Code | Title | Hours |
|--------------------------|--|-------|
| EECS 639 | Introduction to Scientific Computing | 3 |
| EECS 730 | Introduction to Bioinformatics | 3 |
| EECS 731 | Introduction to Data Science | 3 |
| EECS 738 | Machine Learning | 3 |
| EECS 743 | Advanced Computer Architecture | 3 |
| EECS 750 | Advanced Operating Systems | 3 |
| EECS 762 | Programming Language Foundation I | 3 |
| EECS 765 | Introduction to Cryptography and Computer Security | 3 |
| EECS 780 | Communication Networks | 3 |
| | | |

Elective Computer Science Courses

| Code | Title | Hours |
|--------------------------|---|-------|
| EECS 649 | Introduction to Artificial Intelligence | 3 |
| EECS 660 | Fundamentals of Computer Algorithms | 3 |
| EECS 690 | Special Topics: _____ | 1-3 |
| EECS 700 | Special Topics: _____ | 1-5 |
| EECS 718 | Graph Algorithms | 3 |
| EECS 739 | Parallel Scientific Computing | 3 |
| EECS 741 | Computer Vision | 3 |
| EECS 742 | Static Analysis | 3 |
| EECS 745 | Implementation of Networks | 3 |
| EECS 746 | Database Systems | |

| | | |
|--------------------------|--|---|
| EECS 753 | Embedded and Real Time Computer Systems | 3 |
| EECS 755 | Software Modeling and Analysis | 3 |
| EECS 764 | Analysis of Algorithms | 3 |
| EECS 767 | Information Retrieval | 3 |
| EECS 768 | Virtual Machines | 3 |
| EECS 776 | Functional Programming and Domain Specific Languages | 3 |
| EECS 781 | Numerical Analysis I | 3 |
| EECS 782 | Numerical Analysis II | 3 |
| EECS 830 | Advanced Artificial Intelligence | 3 |
| EECS 837 | Data Mining | 3 |
| EECS 838 | Applications of Machine Learning in Bioinformatics | 3 |
| EECS 843 | Programming Language Foundation II | 3 |
| EECS 866 | Network Security | 3 |
| EECS 940 | Theoretic Foundation of Data Science | 3 |

Computer Engineering Track Predefined Course List

Foundational/Core Computer Engineering Courses

| Code | Title | Hours |
|--------------------------|---|--------------|
| EECS 644 | Introduction to Digital Signal Processing | 3 |
| EECS 660 | Fundamentals of Computer Algorithms | 3 |
| EECS 665 | Compiler Construction | 4 |
| EECS 739 | Parallel Scientific Computing | 3 |
| EECS 743 | Advanced Computer Architecture | 3 |
| EECS 750 | Advanced Operating Systems | 3 |
| EECS 762 | Programming Language Foundation I | 3 |
| EECS 780 | Communication Networks | 3 |
| EECS 786 | Digital Very-Large-Scale-Integration | 3 |

| Elective Computer Engineering Courses | | |
|--|---|--------------|
| Code | Title | Hours |
| EECS 611 | Electromagnetic Compatibility | 3 |
| EECS 628 | Fiber Optic Communication Systems | 3 |
| EECS 638 | Fundamentals of Expert Systems | 3 |
| EECS 649 | Introduction to Artificial Intelligence | 3 |
| EECS 664 | Introduction to Digital Communication Systems | 3 |
| EECS 690 | Special Topics: _____ | 1-3 |
| EECS 700 | Special Topics: _____ | 1-5 |
| EECS 718 | Graph Algorithms | 3 |
| EECS 730 | Introduction to Bioinformatics | 3 |
| EECS 731 | Introduction to Data Science | 3 |
| EECS 738 | Machine Learning | 3 |
| EECS 739 | Parallel Scientific Computing | 3 |
| EECS 740 | Digital Image Processing | 3 |
| EECS 742 | Static Analysis | 3 |
| EECS 744 | Communications and Radar Digital Signal Processing | 3 |
| EECS 746 | Database Systems | |
| EECS 753 | Embedded and Real Time Computer Systems | 3 |
| EECS 759 | Estimation and Control of Unmanned Autonomous Systems | 3 |
| EECS 764 | Analysis of Algorithms | 3 |
| EECS 765 | Introduction to Cryptography and Computer Security | 3 |
| EECS 767 | Information Retrieval | 3 |
| EECS 768 | Virtual Machines | 3 |
| EECS 769 | Information Theory | 3 |
| EECS 776 | Functional Programming and Domain Specific Languages | 3 |
| EECS 781 | Numerical Analysis I | 3 |

| | | |
|--------------------------|----------------------------------|---|
| EECS 782 | Numerical Analysis II | 3 |
| EECS 788 | Analog Integrated Circuit Design | 3 |

Electrical Engineering Track Predefined Course List

Foundational/Core Electrical Engineering Courses

| Code | Title | Hours |
|--------------------------|--|--------------|
| EECS 628 | Fiber Optic Communication Systems | 3 |
| EECS 713 | High-Speed Digital Circuit Design | 3 |
| EECS 723 | Microwave Engineering | 3 |
| EECS 728 | Fiber-optic Measurement and Sensors | 3 |
| EECS 744 | Communications and Radar Digital Signal Processing | 3 |
| EECS 780 | Communication Networks | 3 |
| EECS 786 | Digital Very-Large-Scale-Integration | 3 |
| EECS 820 | Advanced Electromagnetics | 3 |
| EECS 861 | Random Signals and Noise | 3 |
| EECS 862 | Principles of Digital Communication Systems | 3 |
| EECS 863 | Network Analysis, Simulation, and Measurements | 3 |
| | | |

Elective Electrical Engineering Courses

| Code | Title | Hours |
|--------------------------|---|--------------|
| EECS 611 | Electromagnetic Compatibility | 3 |
| EECS 622 | Microwave and Radio Transmission Systems | 3 |
| EECS 649 | Introduction to Artificial Intelligence | 3 |
| EECS 664 | Introduction to Digital Communication Systems | 3 |
| EECS 670 | Introduction to Semiconductor Processing | 3 |
| EECS 690 | Special Topics: _____ | 1-3 |
| EECS 700 | Special Topics: _____ | 1-5 |

| | | |
|--------------------------|---|---|
| EECS 721 | Antennas | 3 |
| EECS 725 | Introduction to Radar Systems | 3 |
| EECS 738 | Machine Learning | 3 |
| EECS 740 | Digital Image Processing | 3 |
| EECS 743 | Advanced Computer Architecture | 3 |
| EECS 745 | Implementation of Networks | 3 |
| EECS 769 | Information Theory | 3 |
| EECS 780 | Communication Networks | 3 |
| EECS 781 | Numerical Analysis I | 3 |
| EECS 782 | Numerical Analysis II | 3 |
| EECS 784 | Science of Communication Networks | 3 |
| EECS 788 | Analog Integrated Circuit Design | 3 |
| EECS 823 | Microwave Remote Sensing | 3 |
| EECS 828 | Advanced Fiber-Optic Communications | 3 |
| EECS 844 | Adaptive Signal Processing | 3 |
| EECS 865 | Wireless Communication Systems | 3 |
| EECS 868 | Mathematical Optimization with Applications | 3 |
| EECS 869 | Error Control Coding | 3 |
| EECS 881 | High-Performance Networking | 3 |
| EECS 882 | Mobile Wireless Networking | 3 |
| EECS 888 | Internet Routing Architectures | 3 |
| EECS 965 | Detection and Estimation Theory | 3 |

Act on Request for Approval of Statewide Off-Campus Academic Specialty Program for Kansas State University

Summary and Recommendations

Following KBOR policy, Kansas State University has requested approval to offer Adult Learning and Leadership degrees at the M.S., Ed.D., and Ph.D. levels statewide as Off-Campus Academic Specialty Programs. Staff has reviewed the request and recommends approval.

December 15, 2021

Background

In October 2010, the Council of Chief Academic Officers approved KSU to offer Adult, Occupational and Continuing Education degrees for M.S., Ed.D., and Ph.D. levels as Academic Specialty Programs statewide. Those programs are currently named Adult Learning and Leadership. Board policy (Chapter III, 8.e.3) defines Off-Campus Academic Specialty Programs as “a program unique to a state university or Washburn University that may be offered at approved locations or statewide for a period not to exceed ten years.” Board policy requires a written request for approval of an academic specialty to be made to the Council of Chief Academic Officers. The request from KSU follows.

Council of Chief Academic Officers

RE: Request approval of academic specialty for Adult Learning and Leadership at Kansas State University - Statewide

- 1) Name and CIP: Adult Learning and Leadership (formerly named Adult, Occupational and Continuing Education); 13.1201
- 2) Degrees Awarded: M.S., Ed.D., Ph.D.
- 3) Statement of Need: Nationwide, adult learners are the fastest growing population in higher education. According to the 2019 Digest of Educational Statistics, adult learners make up almost 50% of students in higher education. The Adult Learning and Leadership program curriculum focuses on how to teach and lead programs for adult learners in higher education, adult basic education, and corporate training. The U.S. military is one of the largest training organizations in the U.S. The K-State Adult Learning and Leadership program has significantly influenced military education and training for over 25 years through the work at Fort Leavenworth, KS. Wherever there is training or education of adults involved, this degree program provides the necessary instruction in order to better educate the workforce.
- 4) Purpose of the program: Programs in Adult Learning and Leadership (post-P-12) are committed to *learning as a continuous process that takes place throughout the human life span and learning that occurs in formal and non-formal traditional and non-traditional settings*. Degrees in adult learning and leadership (M.S., Ed.D., Ph.D.) are central and unique due to their statewide mission to serve Kansas. K-State is one of only three Big 12 universities having adult learning graduate programs of this intensity. The department's mission has long been to partner with multiple organizations to deliver specialized graduate programming aimed at the military (Fort Leavenworth's Command and General Staff College), higher education to recently include community college leadership succession planning, nonprofit organizations, corporate training, and online learning. K-State delivers adult learning degrees at every level to Fort Leavenworth, K-State Olathe Campus and wider Kansas City area, and online. The Adult Learning and Leadership program has always been willing to go to the learners across the state of Kansas and deliver education on site. Historically, programs have been delivered in Wichita, KS; Gardner, KS; and Kansas City area to name a few.
- 5) Students likely to enroll in the program and estimated enrollment: The Adult Learning and Leadership programs meet the needs of working adults from a wide variety of professions to become better educators, trainers, facilitators, program planners, managers, and leaders. Current students are involved in a variety of settings including corporate training, active-duty military, community college instructors and administrators, university instructors and administrators, police departments, nonprofit organizations, medical fields, and aviation fields. Current students have a range of occupations from university instructors, ESL instructors, extension agents, continuing professional development directors, academic advisors, admissions and recruiting staff, disabilities directors, sports directors, and program coordinators. Many are currently serving in the armed forces (e.g. Army, Air Force, Marine

Corps), and some are retired military transitioning to a new career. In corporate settings, adult learning and leadership has students who work in marketing, human resources development, managers, corporate leaders, and training. As of Fall 2021, there are 58 MS and 95 doctoral students in the program.

- 6) Unique and distinguishing features of program, such as faculty, facilities, resources, and history to support designation as an off-campus academic specialty: This program has held the academic specialty for statewide coverage since its inception in the 1960s. Since that time, nearly 3,000 masters degrees and over 400 doctoral degrees have been awarded to our alumni. Programs have been delivered specifically for healthcare educators, adult basic education teachers and administrators, and military leaders in a variety of locations across the state of Kansas. The faculty have served as chief editors of two premier journals for five years each in the field: *Adult Education Quarterly* and *Journal of Continuing Higher Education*. The faculty hosted the annual Adult Education Research Conference (AERC) in Manhattan, KS where over 150 international scholars and faculty in the field were in attendance. The department and faculty have housed and sponsored the AERC website and archives of proceedings for over five years. Faculty have held leadership positions in national and international organizations such as Council for Accelerated Programs in Higher Education, Commission of Professors of Adult Education, and American Association of Adult and Continuing Education. Faculty in the program have received teaching and research-related honors including the Wakonse Teaching Fellows Award, the College's Outstanding Graduate Teaching Award, College's Excellence in Research Award as well as frequent recognition at the national level via such awards as the Council for Accelerated Programs in Higher Education Lifetime Achievement Award, the Commission of Professors of Adult Education's Early Career Award, Association of Continuing Higher Education Leadership Award, appointment to the Kansas State University Academy of Fellows and more.
- 7) Curriculum, department, number name, and brief description for content of each course within the program: The Adult Learning and Leadership program revised the name of the degree in 2018 to align with the modifications made to the discipline. The required academic core curriculum remained the same. Core coursework (15 credit hours) examines characteristics of adult learners, explores motivational, social, and cultural differences, develops skills in planning and evaluating programs for adults, and helps professionals better understand how adults develop and learn. The academic core courses are required for the MS degree and doctoral students must demonstrate an equivalency with these courses or complete the courses as well.

Required Academic Core:

- **EDACE 780 – Introduction to Adult Learning and Leadership (3 credits)**
This is a foundation course that acquaints the student with the diverse and evolving field of adult education. It provides a systematic base for further studies in adult education. The broad purpose of this course is to have students explore the scope and significance of the field and its contributions to present-day learning in society. The student should leave this course with the beginning perspective of how adult education emerged, how it is presently changing, and how it interrelates with other fields and disciplines.

- **EDACE 790 – Characteristics of the Adult Learner (3 credits)**
The purpose of this course is to help the student gain increased knowledge about the characteristics of adults and how these impact learning. Students will be asked to develop a critical understanding of relevant theories, concepts, and research. Lastly, they will develop a better understanding of themselves as an adult learner.
- **EDACE 818 – Critical and Social Issues in Adult Learning (3 credits)**
This course is designed for adult learning and leadership students and college or university personnel in sociology and related fields dealing with adults. It is based on the premise that learning is affected by society, government, and economics. Included is an in-depth examination of the relationship between adult learning and culture.
- **EDACE 830 – Program Planning in Adult Learning and Leadership (3 credits)**
This course includes an analysis of major approaches of program planning and development and discussion of assumptions related to successful program planning in several types of organizations. It outlines the importance of program planning and elements of a systematic planning process.
- **EDCEP 816 – Research Methods in Education (3 credits) (or approved equivalent)**
This course will focus upon the fundamental principles and methods of social science research. Additionally, it will provide an opportunity for students to become critical readers of research-based literature in adult education through developing an understanding of the key aspects of quantitative, qualitative, and action-based analytical methods and research traditions.

For the MS in Adult Learning and Leadership, there are 18 credit hours of electives which allows students to customize their educational experience to their particular context of teaching, administration, social justice, technology, or leadership.

The doctoral programs (Ed.D. Ph.D.) in Adult Learning and Leadership requires at least 12 credit hours of advanced level courses in the field. Students may choose from courses such as these listed below:

- **EDACE 880: Significant Literature (3 credits)**
In this course, participants will interpret and critique significant literature of adult education from current and historical perspectives. Particular attention will be given to analyzing major philosophical frameworks within adult education. Based on individual or research interests, each participant will construct an adult education proposal or paper for a conference or journal.
- **EDACE 916 Foundations of Adult Education (3 credits)**
This course is designed to develop a critical understanding of adult education in historical perspectives, contemporary institutions and programs, teaching-learning process, administrative practices, and conceptual roles.
- **EDACE 937: Organization and Administration of Adult Education (3 credits)**
In this course, learners will complete a critical study of organizational procedures and administrative practices as related to the implementation and maintenance of an effective program in adult education.
- **EDACE 940 Adult Development Theory (3 credits)**

This course introduces students to major concepts and issues in adult development and aging that are relevant to adult learners. Developmental psychology presumes that human beings are changing creatures. Emphasis is on how change occurs over the life span and how education and the educational environment influence this change. Students examine the practical implications of research-based findings in the field of adult development, look at classic and current contributors to adult development, and become aware of major issues and disagreements in adult development, especially as it pertains to adult education.

- **EDACE 986 Adult Education Professional (3 credits)**

Doctoral students are expected to develop original research that contributes to the field's body of knowledge. Two primary means to disseminate this research is present at academic conferences and to publish either in conference proceedings or academic journals. This course is designed to assist doctoral students understand the importance in participating in professional organizations, attending professional conferences, and developing and submitting successful conference research proposals. Each student will write and submit a paper proposal for a national conference, and write the first draft of their paper for conference proceedings or archives.

In addition, students complete 15 credit hours of advanced research methodology curriculum, and 21 credit hours of electives in a specialty area. For their electives, students may choose from a variety of areas from teaching and learning, integration of technology, and leadership. Sample courses are listed below:

- **EDACE 820: Principles of Teaching Adults (3 credits)**

This course will explore the theory and practice of teaching adults. Collaborative and active learning techniques will be emphasized in face-to-face online environments. Students will examine the strengths, weaknesses, and appropriate application of a variety of methods to different adult education environments.

- **EDACE 822: International Adult Education and Literacy (3 credits)**

This course will provide an introduction to the foundations of global, political, social-economic and educational issues facing international adult education and literacy students. Participants will examine the values, customs, mores, and communication styles of students from diverse cultures who speak English as a second language. The goal of this course is to broaden student perspectives on adult education and literacy instructional practices, and lifelong learning.

- **EDACE 824: Teaching Online in Adult Education (3 credits)**

Online learning and e-learning have become extremely popular with working adults. In this course, students will learn online adult learning theories, online pedagogy, current research and trends in e-education for the workplace and higher education. In addition, students will apply adult learning principles to the online format, build learning communities, and incorporate online activities including the use of Web 2.0 technologies to enhance adult learning.

- **EDACE 832 Interpersonal and Intrapersonal Dynamics (3 credits)**


This course examines various psychological and sociological factors that impact leadership. Through examining topics like motivation, communication and presentation styles, cognitive processing, learning styles and conflict management, students gain a

deeper understanding of how these factors affect their personal leadership style and impact the adults they are leading.

- **EDACE 834: Leading Adults in a Globalized and Diverse World (3 credits)**
This course provides an introduction to the foundations of adult education leadership in the context of managing a culturally diverse workforce. Concepts of globalization as well as cross-cultural and international contexts as they relate to adult education leadership are emphasized through theory to practice projects and research.
- **EDACE 835: Developing Teams and Leaders in Adult Education (3 credits)**
Adult education theory and adult learning principles are emerging as effective organizational tools to use when developing teams and leaders. This course will examine how teams and leaders can be developed using adult education theory and adult learning principles. Through this course, students will be able to analyze when it is appropriate to use these tools, their strengths, weaknesses and limitations. To compliment the course readings, students will be asked to share their professional experiences with team and leader development.
- **EDACE 836 Group Dynamics of Adult Learners (3 credits)**
The course focuses on group behavior and group processes in organizations. Ways individual and leader characteristics impact group processes will be addressed. In addition, behavior and productivity will be examined. Finally, the structure, management, and facilitation of groups to achieve organizational objectives, accomplish group tasks, and fulfill individual members' needs will be addressed.
- **EDACE 845: Social Media and Adults in 21st Century (3 credits)**
This course exposes students to the most popular social media and helps them understand the promise and challenge that social media has brought to 21st century working adults. Example topics include but not limited to Social Media and adult learning, Social Media in the workforce, new technology literacy in 21st century, etc. Students will have opportunity to experience the use of some of the social media covered in the class and will also be given guidance on how to conduct research on current social media
- **EDACE 847: Adult Learning and Motivation (3 credits)**
This course is an overview of significant learning and motivational theories and the educational implications for adult educators. Students will develop an awareness of what learning is and how it occurs, examine current and developing concepts on learning and motivation, and explore how adult learning is influenced by factors such as gender, race, and socioeconomic class.
- **EDACE 850: Self-Directed Learning (3 credits)**
Self-directed or independent learning is an important aspect of adult education because it represents a significant portion of all learning by adults. It has also been identified as instrumental in distinguishing the field of adult education. During this course, students will explore self-directed learning from both an academic and a personal perspective. Topics include its history and development, its research base, areas of current interest and implications for adult education practice.
- **EDACE 865: Principles of Workplace Learning (3 credits)**
This course provides an overview of various aspects of workplace learning initiatives as found in the related professional literature and from various practice-related venues. Major topics include evolution of the process of workplace learning and the profession of training; assessing and analyzing workplace learning needs; designing and delivering

workplace learning programs; and measuring and evaluating the impact of workplace learning initiatives.

Further, doctoral students conduct dissertation research in a variety of areas. Students customize their topic to an area that will assist them most in their career trajectory. For example, doctoral students whose career was in higher education focused on a teaching or learning problem. Doctoral students in a corporate training career may focus on application of technological advances in training. Doctoral students in the military may focus on leadership traits in a crisis.

- 8) Other information may wish to provide in support of request: Graduation rates and enrollment rates in all programs meet or exceed expectations set by KBOR. The adult learning emphasis currently counts among its graduates high ranking military officers holding such distinguished positions as Director of Strategic Plans and Policies, Army University; Chief, Policy & Quality Assurance Branch, Faculty & Staff Development Division, Army University; Commandant at Patton Academy, Farragut Career Academy High School; and Director, U.S. Army Aviation Center G5 at U.S. Army Training and Doctrine Command. Other graduates hold high employment in other fields such as directors of learning and development, instructional designer, consultant, manager, coordinator, program leader, health educator, instructor, human resource director, staff development director, deans and associate deans at colleges and universities nationwide. Additionally, graduates hold influential positions in the military, business and industry, and nonprofit sectors including positions as faculty as Director of Academic Affairs at the Command and General Staff College-Fort Leavenworth, U. S. Army Prep School Commandant, West Point, NY; and Amazon General Manager, Greater St. Louis Area. From 2011 to 2020, 45 doctoral students graduated and 700 students graduated with the master's degree. This equaled an average M.S. graduation rate N=87.5 per year and an average Ed.D./Ph.D. rate N=5.6 per year. This further demonstrate that Adult Learning and Leadership exceeds the enrollment thresholds established by the regents. Adult Learning and Leadership far excels in meeting and exceeding standards.
- 9) Name, title, address and telephone number of the designated representative of the program:
Dr. Jerry Johnson,
Department Chair Lydia E. Skeen Endowed Professor in Education;
363 Bluemont Hall, 1114 Mid-Campus Dr. North, Manhattan, KS 66506
785-532-5535
- 10) Specific locations where the program offered: Olathe, KS; Fort Leavenworth, KS; Colby Community College, Colby, KS; Wichita Area Technical College, Wichita, KS; Barton Community College, Great Bend, KS; and Highland Community College, Highland, KS
- 11) Requested approval period: July 1, 2021 – June 30, 2031
- 12) Signature of the chief academic officer of the institution: 

13) Date of the request: November 10, 2021

November 23, 2021

Daniel Archer
Vice President for Academic Affairs
Kansas Board of Regents
1000 SW Jackson Street, Suite 520
Topeka, KS 66612-1368

Dear Vice President Archer,

Kansas State University requests to merge two departments within the College of Arts & Sciences: American Ethnic Studies and Gender, Women, and Sexuality Studies, as discussed and directed by the Kansas Board of Regents in January, 2021.

Per an approved vote of the faculty of these departments as well as the approval of the College Committee on Planning (CCOP) within the College of Arts and Sciences, we respectfully request to merge the departments into a single department named "Social Transformation Studies."

A merger will provide opportunities to build on the existing connections between the two fields and innovations in research and instruction. The efficiencies created by the merger will also facilitated greater interdisciplinary study and a stronger academic hub for both students and faculty. The consolidation will offer greater visibility of the department for students.

This departmental merger will also facilitate the merger of their bachelor's degree programs into a new, single major with a combined focus on social justice and social transformation, which is expected to be completed in the coming months.

Thank you for your consideration.

Sincerely,



Charles Taber
Provost and Executive Vice President
Kansas State University



TO: Dr. Daniel Archer, Vice President for Academic Affairs – Kansas Board of Regents

FROM: Dr. Shirley Lefever, Interim Executive Vice President & Provost

DATE: November 16, 2021

SUBJECT: Department of Women’s Studies Name Change

The purpose of this memorandum is to request a departmental name change and to briefly discuss the rationale. The proposed department name change is from the Department of Women’s Studies to *the Department of Women’s, Ethnicity, and Intersectional Studies (WEIS)*.

Rationale: The rationale for such a change is multilayered.

1. The greater disciplinary range that the new name expresses will be an attractor to a generation of students who are highly engaged in sociopolitical issues that affect our country, and who want to see themselves as agents of change for the good. The primary reason for the proposed change is to attract a wider range of interests and therefore create much greater enrollment for the degree program. Many benchmark and aspirational institutions have expanded the disciplinary range beyond strictly women’s studies in response to growing interest in gender issues and ethnicity, for example. The change marks a refresh and recalibration based on changing interests in the field.
2. The proposed change will also reflect current curriculum in the degree program. The degree content has become increasingly multidisciplinary. Each semester over half of the courses offered in the department are cross-listed with other disciplines. This creates an allied and affiliated department and faculty throughout the Fairmount College of Liberal Arts and Sciences.
3. The department houses ethnic studies beginning in 2019. The name change would formalize this addition to the curriculum of the department.
4. The Fairmount College of Liberal Arts and Sciences has a deep reservoir of aptitude in social sciences and the humanities that build upon the understanding of Women’s, Ethnicity, and Intersectional Studies.
5. The renaming of the department, as well as building an interdisciplinary curriculum, will advance the program, its majors, the college, and university in becoming a more diverse institution of higher education.

Specifically, we propose four core competencies that students would develop over their time as majors. They are:

- 1) Decenter gender as a primary form of analysis.
- 2) Investigate how ethnicity and race intersects with multiple forms of identity including, but not limited to, gender, social class, sexuality, and age.
- 3) Analyze the ways in which societal institutions and power structures impact the material realities of people’s lives.
- 4) Recognize the long tradition of women’s participation and engagement in government, politics, and societal advancement in Kansas.

The new curriculum for the major’s 30-hour curriculum will consist of the following requirements:

| | |
|------------------|-----------------|
| 1) Introductions | 6 credit hours |
| 2) Foundations | 6 credit hours |
| 3) Theories | 3 credit hours |
| 4) Explorations | 12 credit hours |
| 5) Capstone | 3 credit hours |

These changes will help streamline the enrollment process, provide a comprehensive learning experience, and allow flexibility for students from other, related majors to more easily add WEIS as a double major.

We searched [WSU's official webpage](#) of majors, minors, and certificates to ensure this degree name is not currently in use. No additional resources are needed as a result of this change.