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KBOR Academic Portfolio and Teaching Workload Reviews January 4, 2023

Kansas Board of Regents Academic Portfolio and Teaching Workload Reviews

January 2023

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Executive Summary

rpK GROUP, over the course of nine months, worked with the Kansas Board of Regents (KBOR) staff, representatives from each of the bachelor's degree-granting institutions, and Regents to conduct an Academic Portfolio Review and Teaching Workload Review. A primary goal of both reviews was to provide KBOR with an understanding of student and faculty activity in a way that allowed the Regents to both understand the collective system as well as the unique ways each institution contributes to the whole. This shift from viewing each institution independently of one another to a more system-focused approach to management is one that embraces the responsibility of the governing board to be good stewards of public resources, while at the same time acknowledging the important variability within the system.

The result of the Academic Portfolio Review is a framework that KBOR can use to understand the programmatic offerings across the system. Specifically, the Regents can see what programs are doing well and what programs might need intervention, using headcount enrollment and degree production to understand program demand and success. In addition, they have a lens through which to understand program duplication within the system.

The Teaching Workload Review provides KBOR with a standard through which faculty teaching activity at each institution can be understood and monitored. KBOR does not have a formal workload policy, deferring instead to each institution to set a policy that aligns with institutional mission and goals. However, given the diversity of the bachelor's degree-granting institutions that KBOR governs, it is important for the Regents to have a method to understand the differences in teaching activity based on institution type.

Moving forward, rpK recommends that the Board of Regents:

1. **Adopt the Academic Portfolio Review framework as an annual assessment** and modify the current program review process such that the framework is used to identify the programs that are needed for review as opposed to cycling each program through individually on an eight-year cycle. This recommendation maintains institutional control over program review but provides the Regents with a framework through which to manage the process and encourage more immediate action at the institution level. In addition to using the framework for existing program review, this structure will allow the Regents to understand the impact of new program proposals more clearly on the system. Specifically, it will be much easier to understand instances of duplication within the portfolio and make more informed decisions about program offerings and investments.
2. **Measure teaching workload and activity using student credit hours produced by faculty full-time equivalent across the institutions**, recognizing the different teaching expectations each institution should meet relative to their research mission. While rpK does not recommend setting a firm policy at this time, KBOR staff should move forward with continuing to produce this data annually for Board awareness. Given that this is a new data collection for KBOR staff, the Regents should monitor the metric and data for two to three years, and then revisit the idea of establishing teaching workload targets or setting expectations for trends. For example, the Board might require that institutions maintain or improve upon a particular average once the data collection and reporting process is stable.

These two recommendations provide the Regents with a new and important framing of the institutions as a system, which will support the important governance goals of good stewardship and resource management.

Introduction and Background

Higher education nationally is experiencing a significant amount of change as the recent pandemic and other long-standing pressures result in lower enrollments across colleges and universities. This enrollment decline, paired with increasing price sensitivity on behalf of students, has resulted in many systems and governing boards working to ensure that institutions are operating sustainably and in pursuit of Mission, Market, and Margin[®] alignment. Meaning, institutions are meeting the needs of students and the labor markets they serve, fulfilling their mission, and doing so in a way that maintains a sustainable financial environment.

rpk GROUP (rpk) was hired by the Kansas Board of Regents (KBOR) in March of 2022 to, in partnership with KBOR staff, complete two analyses that will be essential for the work of the Regents in the coming years as they support institutions in their sustainability efforts: an Academic Portfolio Review and a Teaching Workload Review. Like many systems and governing boards nationwide, the Regents seek to better understand the system of bachelor's degree-granting institutions in Kansas and ensure that the state is achieving a high return on their investments in higher education.

Included in the analysis are:

- Emporia State University
- Fort Hays State University
- Kansas State University
- Pittsburg State University
- University of Kansas
- University of Kansas, Medical Center
- Wichita State University

The Academic Portfolio Review is an analysis of current program offerings at each institution and across the system using a consistent framework to capture trends, highlight duplication, and inform opportunities for improvement. This framework allows KBOR to ensure the six¹ KBOR bachelor's-degree granting institutions are offering academic programs that students are interested in pursuing and successfully complete, and that support state and regional labor market needs.

The Teaching Workload Review is an analysis focused on teaching activity across institutions. This work lays the foundation for KBOR to assess academic resource utilization across all institutions and move toward a workload evaluation process that leads to continuous improvement centered in student success.

The overall project took place across a nine-month timeframe and included representatives at various levels from each of the six institutions as well as the Regents and KBOR staff. Specifically, rpk convened a Data Team, a Steering Team, an ad-hoc Faculty Advisory Group, and met regularly with KBOR staff. Details on stakeholder engagement, including the roles and functions of the advisory and oversight bodies for the project can be found in Appendix A. In addition to engaging the bodies listed above, rpk and KBOR maintained a public website² that listed the representatives engaged, provided meeting summaries and slide decks, and included weekly updates on project progress. The site also included a feedback form that stakeholders could use to comment or ask questions, the responses to which were posted on the site as well.

¹ While the analysis includes a total of seven sites, when the system of institutions is described, it is referred to as six due to the University of Kansas and the University of Kansas, Medical Center technically being the same institution.

² Project website: https://www.kansasregents.org/academic_affairs/academic-portfolio-reviews

Academic Portfolio Review Approach, Findings, and Recommendations

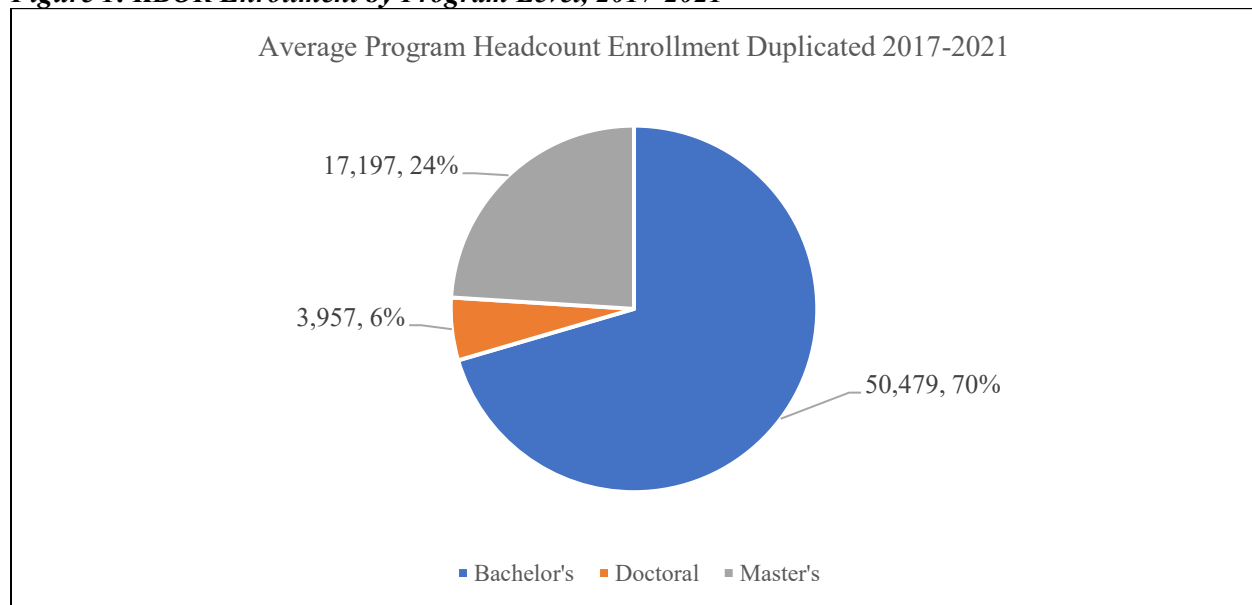
The goal of the Academic Portfolio Review is to provide a framework that allows KBOR to ensure the six KBOR bachelor's-degree granting institutions are offering academic programs that students are interested in pursuing and successfully complete, and that lead to employment. As a system, it is important for the Regents to have a comprehensive understanding of the academic offerings across all the institutions, knowing where institutions are successfully serving students, where duplication exists, and where the opportunities are for improvement.

Historically, governing boards engage in program review processes, which typically involve detailed assessments of program metrics provided by institutions at defined intervals. For KBOR, every program is reviewed at least on an eight-year cycle³. As a part of program review, institutions share detailed information related to program health, outcomes, and the role of the program at the institution. While this level of depth in review is important, particularly at the institution level to identify areas of strength and improvement, the Board and system need a higher level of understanding on a more frequent basis to understand the health of the entire academic portfolio.

KBOR Academic Portfolio Review – System Context

rpk looked across KBOR's bachelor's degree granting institutions to understand the health of each institution's portfolio of programs, and then applied a system-level lens to unpack the overall health of the combined program offerings from 2017-2021. There were 688 individual active bachelor's, master's and doctoral programs included in the analysis at the four-digit Classification of Instructional Program (CIP) code⁴. When de-duplicated across institutions, 333 unique programs remained. Seventy percent of students served by the institutions are at the bachelor's level (see Figure 1 below).

Figure 1: KBOR Enrollment by Program Level, 2017-2021

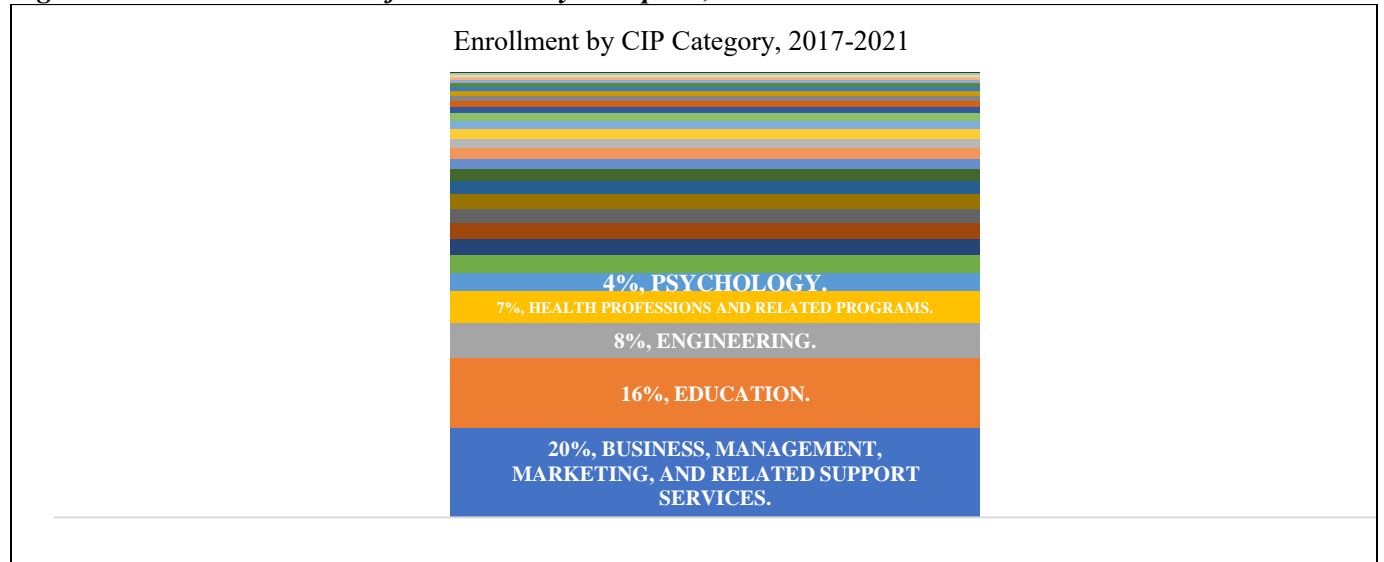


³ https://www.kansasregents.org/academic_affairs/618-program-review-reports

⁴ The Classification of Instructional Programs (CIP) provides a taxonomic scheme that supports the accurate tracking and reporting of fields of study and program completions activity. CIP was originally developed by the U.S. Department of Education's National Center for Education Statistics (NCES) in 1980, with revisions occurring in 1985, 1990, 2000, 2010 and 2020. Source: NCES

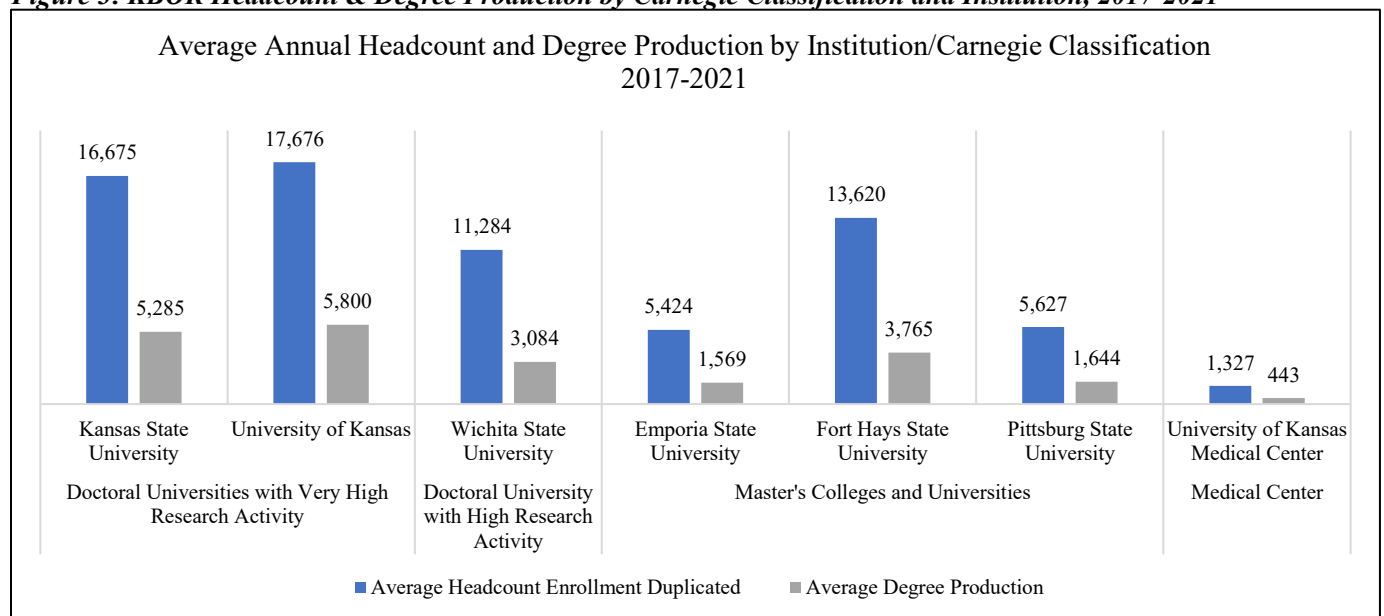
When looking at the academic discipline students were enrolled in during the timeframe of the analysis, 55% of students were concentrated in only five disciplines (defined by the two-digit CIP code): Business, Education, Engineering, Health Professions, and Psychology. This level of concentration is typical, but also is an initial indicator to the system on the level of duplication across the institutions (see Figure 2 below).

Figure 2: KBOR Distribution of Headcount by Discipline, 2017-2021



Another helpful lens to apply when looking across the KBOR academic portfolio is an understanding of activity by Carnegie classification⁵. Sixty-four percent of total headcount from 2017-2021 occurred at the three doctoral universities, and those same universities produced 65% of degrees awarded (see Figure 3 below).

Figure 3: KBOR Headcount & Degree Production by Carnegie Classification and Institution, 2017-2021



⁵ <https://carnegieclassifications.acenet.edu/>

KBOR Academic Portfolio Review – Framework

To understand the overall health of KBOR's academic portfolio, rpk applied a consistent framework to each institution's academic portfolio and then combined the results of the institutional application to create a system level view of the framework.

The primary elements of the framework are:

- a) Headcount enrollment – Number of students who have declared a major in the program across academic year; undergraduate data is restricted to Junior and Senior counts; graduate data includes all students.
- b) Headcount enrollment trend – The change in headcount enrollment over five years.
- c) Degree production – Number of degrees awarded across academic year

The framework categorized programs as Maintain, Optimize, and Review and Monitor based on institutional medians for the data described below:

- **Maintain:** Above institutional median headcount, positive headcount growth, above institutional median degree production
- **Optimize:**
 - Above institutional median headcount, positive/no headcount growth, below institutional median degree production OR
 - Above institutional median headcount, below institutional median degree production OR
 - Below institutional median headcount, above institutional median degree production OR
 - Below institutional median headcount, positive/no headcount growth, below institutional median degree production
- **Review and Monitor:** Below institutional median headcount, negative growth in headcount, below institutional median degree production

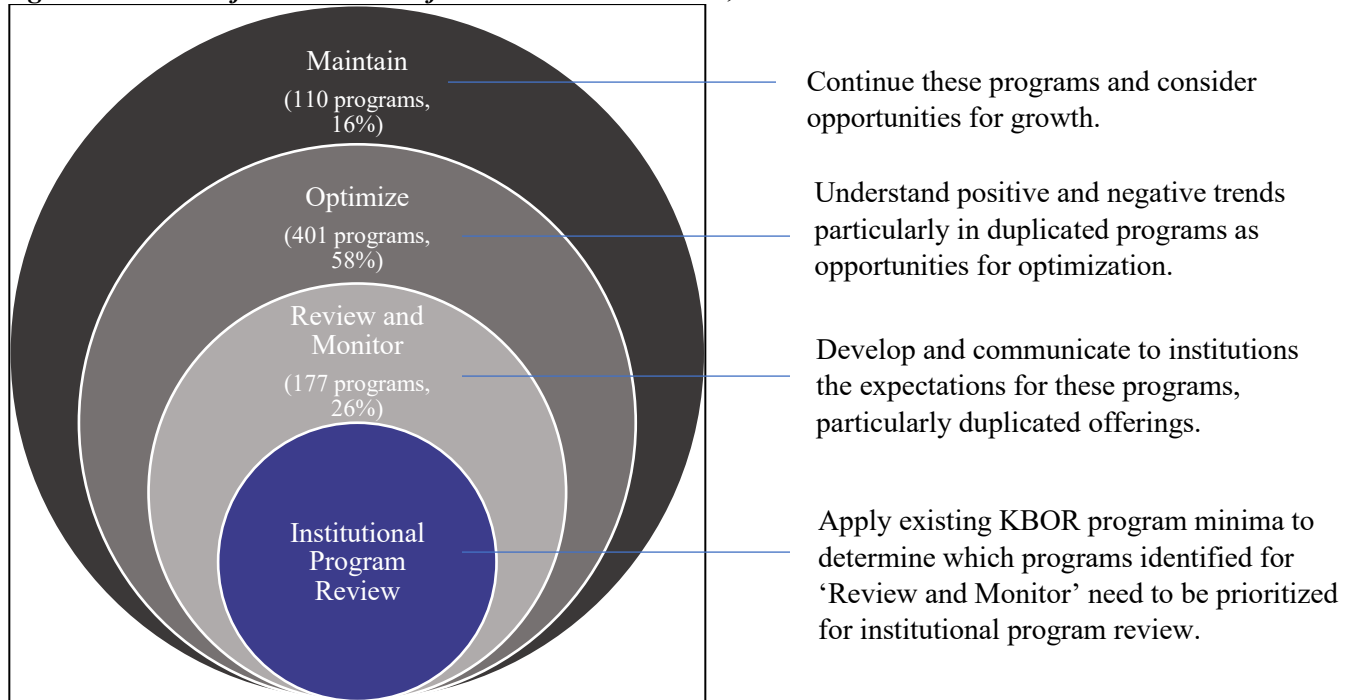
Reflective of institutional mission, Carnegie classification, and size, the medians for each institution varied widely. At the bachelor’s level, Fort Hays and Kansas State had the highest at 116 and Emporia State and University of Kansas Medical Center the lowest (54 and 53) (see Table 1 below).

Table 1: Medians for KBOR Portfolio Health Framework, 2017-2021

Institution Name	Bachelor's Degrees		Master's Degrees		Doctoral Degrees	
	Median Headcount	Median Degree Production	Median Headcount	Median Degree Production	Median Headcount	Median Degree Production
Emporia State University	54	15	75	22	20	3
Fort Hays State University	116	28	102	30	N/A	N/A
Kansas State University	116	38	25	8	32	4
Pittsburg State University	78	22	29	11	N/A	N/A
University of Kansas	105	35	17	7	33	4
University of Kansas Medical Center	53	21	11	4	17	4
Wichita State University	101	27	37	10	33	4

When the framework was applied across the system, 110 (16%) programs were identified as Maintain, 401 (58%) were Optimize, and 177 (26%) were Review and Monitor. Maintain programs are positive indicators of program health. Optimize indicates there is decline or below median performance and therefore informal monitoring would be helpful. Review and Monitor programs are not performing as well as the rest of the institution's portfolio.

Figure 4: Results of Academic Portfolio Review Framework, 2017-2021



A key area for the Regents to focus on in this framework is where in the portfolio there are duplicative programs that are identified as Review and Monitor or Optimize. Meaning, there are multiple institutions offering the same program and all instances of that program failing to meet institutional median headcount enrollment, median degree production, and program growth. Based on the 2017-2021 data, there are 13 bachelor's programs and nine master's degree programs that are duplicated across the system, and no instances of those programs are identified as Maintain in the framework's categories (see Figures 5 and 6 below).

Figure 5: Bachelor's Degree Programs with Duplication & No Programs Labeled as Maintain, 2017-2021

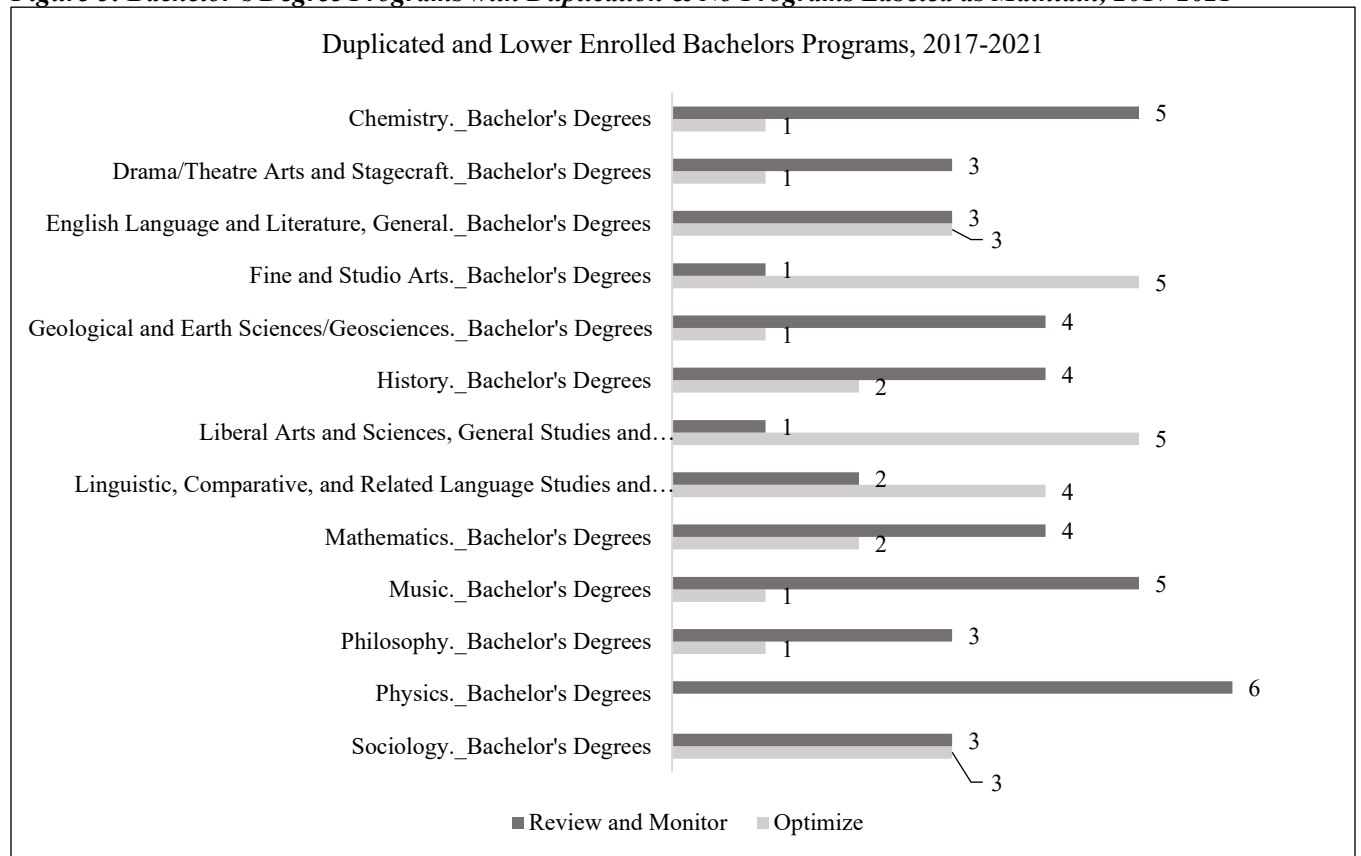
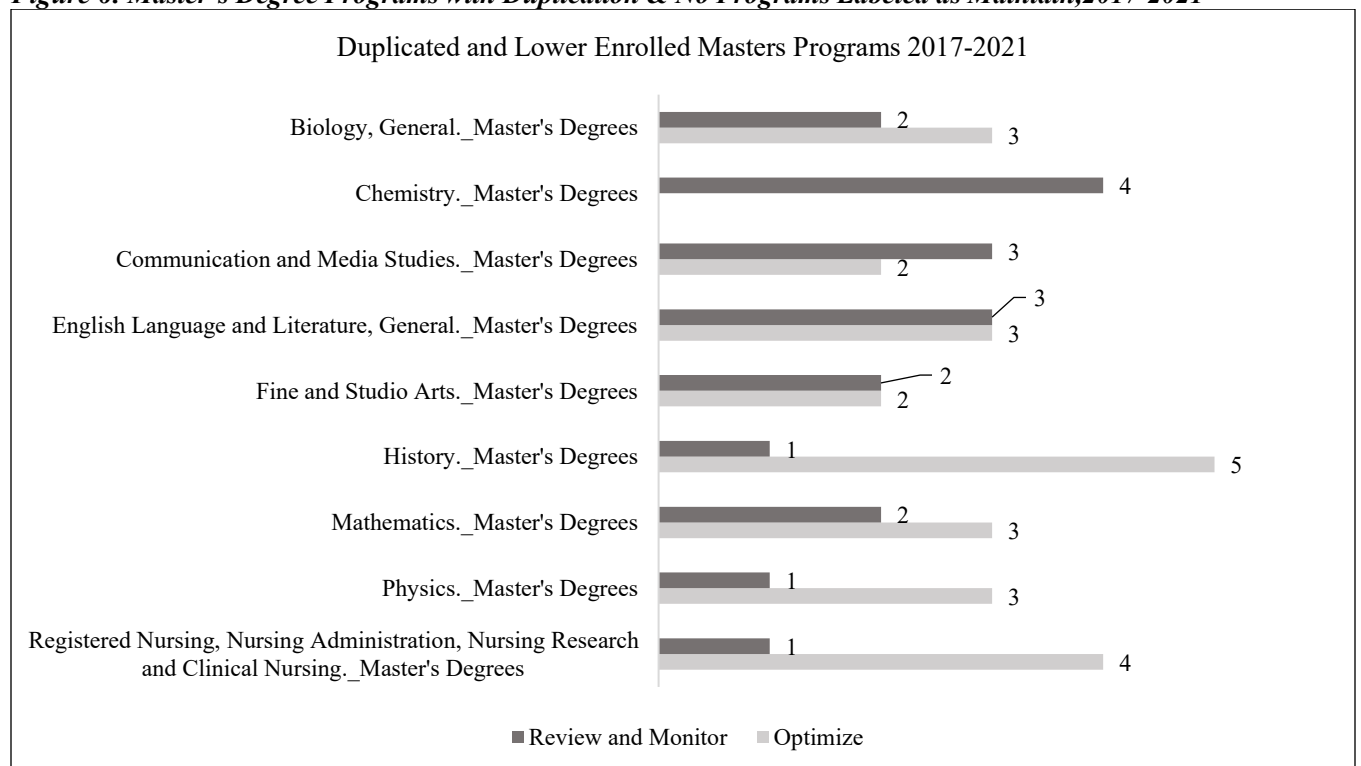


Figure 6: Master's Degree Programs with Duplication & No Programs Labeled as Maintain, 2017-2021



A working example of how the framework’s application informs the Regents and institutions is the Physics Bachelor’s degree. This program is below median enrollment and degree production at all institutions. Although graduates who find employment in Kansas or Missouri earn higher wages, few graduates are employed regionally (see Table 2 below).

Table 2: Working Example: Physics – Bachelor’s Degree

4-Digit CIP Title	Degree Type	Institution Name	Program Category	Average Headcount Enrollment Duplicated	Headcount Difference (2017-2021)	Average Degree Production	Degree Production Difference (2017-2021)	Wage Employment Category
Physics	Bachelor's Degrees	Institution 1	Review & Monitor	14	-15	5	-4	High Wage Low Regional Employment
		Institution 2	Review & Monitor	22	-9	6	-4	High Wage Low Regional Employment
		Institution 3	Review & Monitor	57	-21	13	-2	Low Wage Low Regional Employment
		Institution 4	Review & Monitor	12	-4	***6	Positive Growth	***
		Institution 5	Review & Monitor	60	-5	13	0	High Wage Low Regional Employment
		Institution 6	Review & Monitor	29	-9	6	-4	High Wage Low Regional Employment

There are additional data points and information that can be incorporated into the framework over time, such as labor market alignment, graduate employment and wages, and graduation rates. rpk conducted a labor market analysis in addition to the portfolio analysis, which is available in Appendix D. As available and appropriate, employment and wage data are useful secondary data points to understand program trajectory.

KBOR Academic Portfolio Review – Recommendations

rpk recommends that KBOR maintain a modified institution led program review but also establish a framework for annual academic portfolio monitoring at both the institution and system level to better understand student demand and success, as well as trends in labor market alignment. Specifically, the Board should:

1. Charge KBOR staff with producing a dashboard showing the academic portfolio review monitoring data and related reports for the Regents on an annual basis. At a minimum, the dashboard should include the following for the five most recent academic years: headcount enrollment, headcount enrollment change, and degree production. Over time, consider incorporating additional metrics (retention, graduation rate, labor market alignment) in the portfolio review dashboard to provide additional clarity into academic portfolio health.

⁶ Data suppressed for cell size < 5.

2. Modify the current institution led program review cycle to allow for tighter connection to academic portfolio review monitoring process. Specifically, move from reviewing each program every eight years to setting the timeline for reviews based on the program result in the portfolio framework. If a program has declining enrollment and below median headcount enrollment and degree production, it would be compared to KBOR’s minima policy and slated for review on a faster cycle.
3. Coordinate with KBOR staff to design and deliver on-going trainings for the Regents and institutional leaders related to the annual academic portfolio review monitoring process. This should not require additional KBOR staff resources, but rather reflects a commitment by the Board to be carried out with existing resources to ensure continuity of understanding of the framework as Board members cycle on and off.

While it is not the Board’s responsibility to act on every program rating, Table 3 below describes what would be the ideal action taken, either by the Board or the institution, depending on the program outcomes.

Table 3: Program Categorization and Recommended Actions

<i>Categorization</i>	<i>Recommended Actions</i>
Maintain	While there is typically always room for program improvement, especially related to student success, programs identified in this category are meeting expectations and no immediate action is necessary. Institutions should, at a minimum, continue the existing practices that are leading to program demand and success.
Optimize	Programs in this category are either smaller, shrinking, or producing fewer degrees. Interventions will depend on the available areas of improvement, but interventions could include: <ul style="list-style-type: none"> • Assessment of market saturation and overall program demand to determine opportunities for program distinction that would increase student interest • Student success practices, such as strategic advising or curriculum review, to improve degree production • Faculty training on high impact teaching practices to improve the student experience and student demand
Review and Monitor	Institutions should focus on the programs in this category that fail to meet KBOR program minima for the program review process. If programs on the list have been reviewed in the past three years, they should not go through a full program review process again, but the Regents should be made aware of that fact by KBOR staff and discuss implications of a program consistently being identified for review. For programs identified here that are above the KBOR minima, institutions should consider steps to optimize the program that would increase the headcount enrollment or improve student success to lead to higher degree production.

Teaching Workload Review Approach, Findings, and Recommendations

Increasingly, higher education systems and governing boards are implementing policies to assess and monitor faculty workload. This practice is intended to ensure resources invested in institutions are being used to support teaching and learning appropriate to college or university mission. At this time, KBOR does not have a standardized workload policy – the Board defers to institutions to set and monitor their own workload expectations. The Regents hired rpk to explore how KBOR might approach assessing, monitoring, and potentially setting firmer policy around faculty workload. The specifics of the assessment included a landscape analysis, new data collection of faculty and course details, and recommendations for the Regents as they continue to consider the role of the Board in monitoring faculty workload as related to teaching.

Landscape Analysis

rpk did a national landscape scan to identify states with Board of Regents’ structures and authorities similar to Kansas. Fifteen states and systems were identified as having governing boards similar in structure and authority to KBOR. Of the 15, five define teaching activity using course load or course credit expectations (see Table 4 below). Three of those instances use Carnegie classifications and/or institutional type to differentiate teaching expectations.

Table 4: Governing Boards that Define Workload Expectations

State System	Policy Status	Definitions
Nevada System of Higher Education	Board implemented	Universities: 18 instructional units per year; Colleges: 24 instructional units per year
University of Hawaii System	Board implemented	24 semester credit hours per year
University of North Carolina System	Board implemented	Semester standards set by Carnegie type by semester: Research Universities: <ul style="list-style-type: none"> - Very High Research Activity: 2 courses - High Research Activity & Doctoral Granting: 2.5 courses Master’s Colleges & Universities: <ul style="list-style-type: none"> - Large & Medium: 3 courses Baccalaureate Colleges: <ul style="list-style-type: none"> - Arts & Sciences: 4 courses - Diverse Fields: 4 courses
Utah System of Higher Education	Board implemented	Stipulates averages based on institution function: <ul style="list-style-type: none"> - Research/Teaching: 18 credit hours per year - Metro/regional: 24 credit hours per year Defers to presidents to be ‘innovative’ to increase faculty productivity
Vermont State College System	Negotiated labor contract	24 credit hours or its equivalent per year; 18 credits per year for technical colleges

Of those that do not define teaching activity, six defer responsibility of defining teaching activity to institutions (Iowa, Louisiana, Montana, South Dakota, Wisconsin, Wyoming). Iowa and Wisconsin require regular monitoring and reporting. Four boards do not define teaching activity or require reporting from institutions (Alaska, Idaho, Maine, and North Dakota).

None of the governing boards addressed teaching variability and the impact of class size on actual teaching workload and responsibilities, nor did they address research and service expectations.

Faculty Teaching Workload Analysis

In partnership with KBOR staff and the project’s Data Team, rpk worked with the institutions to collect faculty data and course data, both of which were used to define teaching workload. The three key metrics in the teaching assessment are:

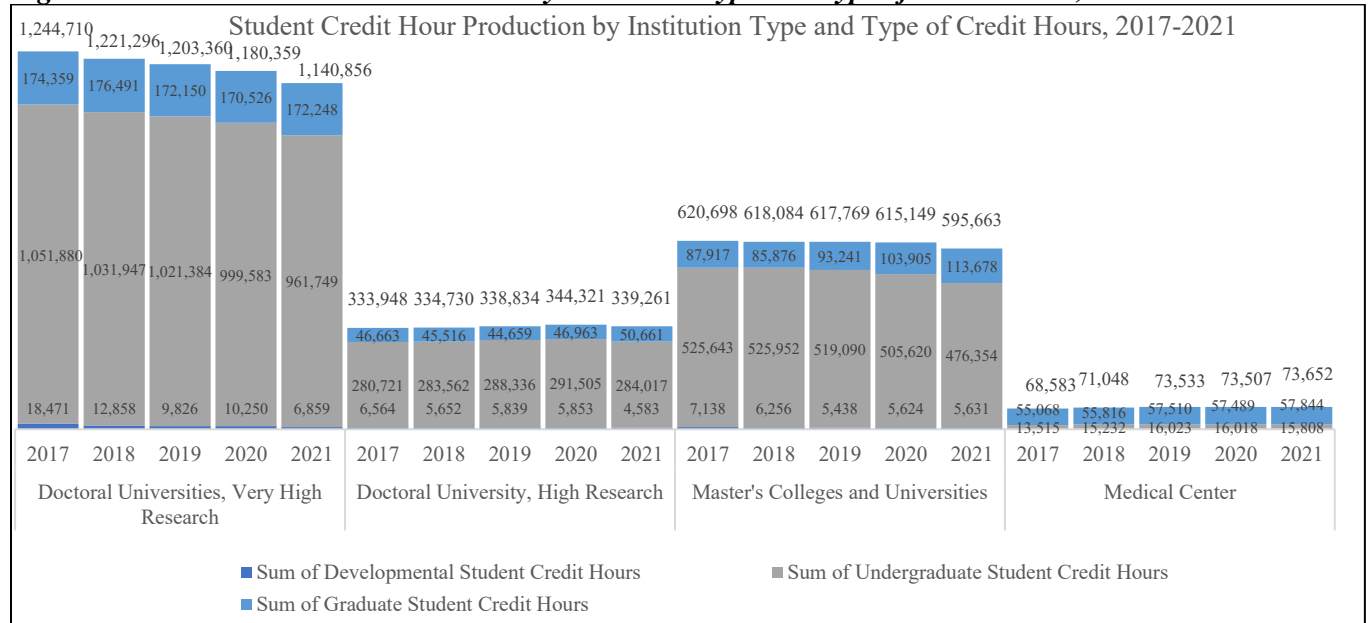
1. Student credit hours (SCH)
2. Faculty type
3. Student credit hours per full-time equivalent faculty member (FTE)

Student credit hours are generated from course data and represent the volume of credits taken by students and delivered by faculty. Student credit hours for course sections are generated from enrolled count and earned credits of all students. They are grouped by level: development, undergraduate, or graduate, and mapped to the course subject’s home department. Measuring student credit hours allows for an understanding of student demand.

From 2017-2021, 82% of KBOR’s student credit hours were at the undergraduate level. Undergraduate student credit hours declined 7% while graduate student credit hours increased 8% during the years of analysis.

In addition to course level, another lens of analysis is Carnegie classification. Carnegie classification is a framework for organizing colleges and universities according to institutional diversity. KBOR operates two doctoral universities with very high research activity (Kansas State University and the University of Kansas), one doctoral university with high research activity (Wichita State University), three master’s colleges and universities (Emporia State University, Fort Hays State University, and Pittsburg State University), and one medical center (University of Kansas Medical Center). KBOR’s Doctoral Universities with very high research activity produced 54% of all student credit hours (see Figure 7 below).

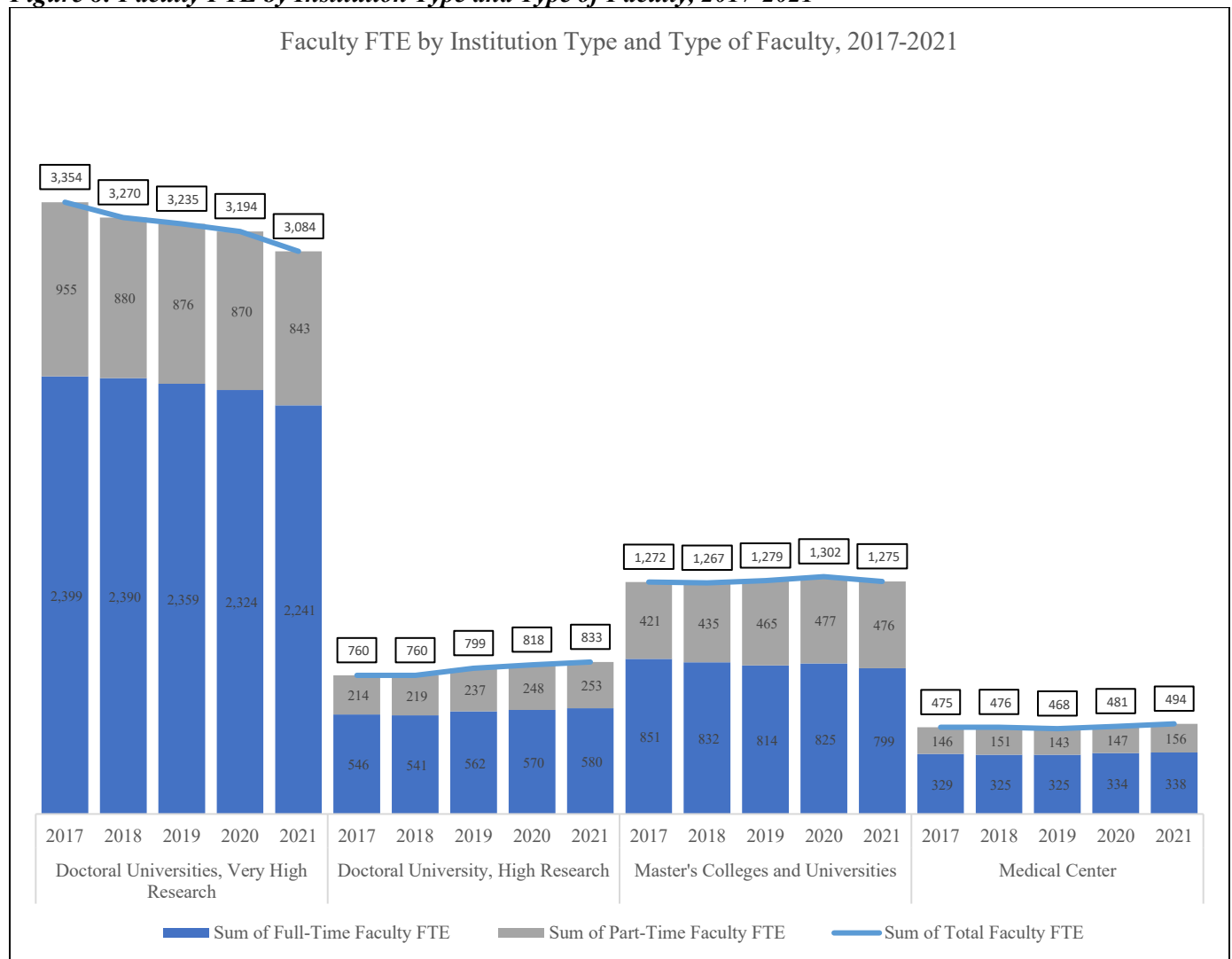
Figure 7: Student Credit Hour Production by Institution Type and Type of Credit Hours, 2017-2021



The collection of faculty data in a uniform way across institutions was one of the more challenging aspects of the analysis. Faculty data is not currently part of a standard data submission to KBOR, so rpk and KBOR staff worked with institutions to carefully define a consistent methodology for measuring faculty FTE across all institutions. The final submission included both full-time faculty as well as part-time faculty.

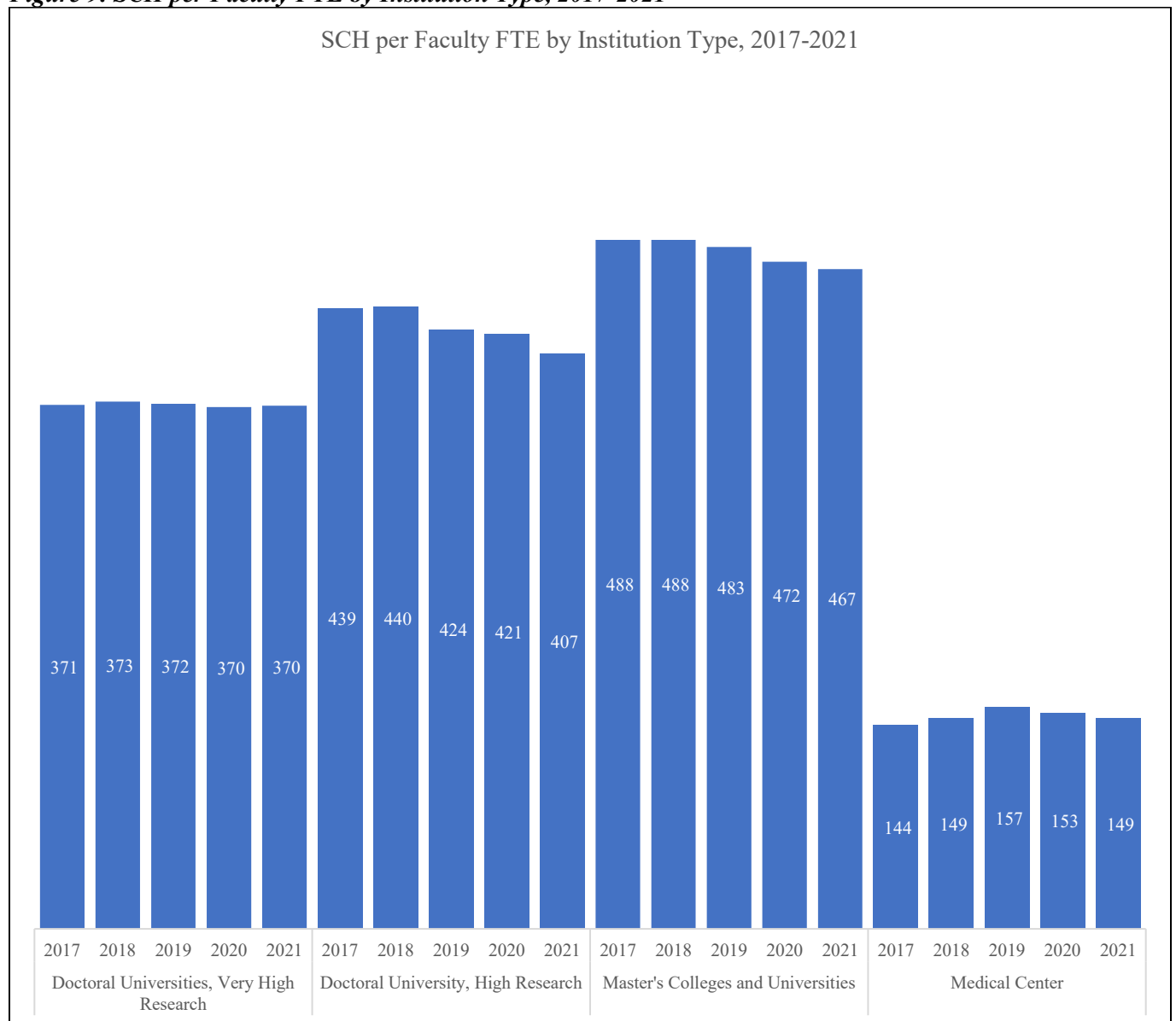
Full-time faculty are counted as 1 full-time equivalent, regardless of whether they had course release (making their teaching less than full-time), or if they overloaded (taught in excess of their load expectations). The decision to capture full-time faculty in this way is due in part to varying practices of measuring and maintaining data on course releases and faculty overloads. Future workload analyses could be more precise in measuring full-time faculty workload if institutions align their data and practices. Part-time faculty were converted to full-time equivalency based on the number of course credit hours taught. The standard used was 24 credit hours. Meaning, if two part-time faculty members each taught four three-credit courses (12 credit hours each), together they are one full-time equivalent faculty member. Part-time faculty include adjuncts, lecturers, graduate assistants, and other categories universities assign to instructors who are not full-time faculty (See Figure 8).

Figure 8: Faculty FTE by Institution Type and Type of Faculty, 2017-2021



Using these two metrics – SCH and faculty FTE – rpk calculated the student credit hours per faculty FTE (SCH/FTE) for each institution. This metric offers the Regents and institutions a transparent and on-going understanding of teaching activity with more nuance than load or number of courses taught. The metric should also be reflective of institutional mission and academic program offerings. For example, institutions that have higher research expectations in their workload definitions for faculty will have smaller SCH/FTE numbers compared to institutions that have higher teaching expectations for faculty (See Figure 9).

Figure 9: SCH per Faculty FTE by Institution Type, 2017-2021



A decline in SCH per faculty FTE indicates the institution is not adjusting faculty in response to student demand (becoming less efficient over time). An increase indicates efficiency improvements. Over time, the Regents should look to institutions to realize gains on this metric. Across the institutions in the system, teaching activity can and should vary due to program mix, mission, and research activity.

Teaching Workload Review Recommendation & Considerations

The Kansas Board of Regents should begin the practice of regularly collecting faculty data from institutions along with existing data collections. The specific metrics reported should be faculty FTE by type and SCH/FTE. The collection should allow the KBOR staff to report on faculty workload to the Regents annually and therefore allow the Regents to use this metric for the assessment and understanding of teaching workload.

After a few years of reporting and monitoring trends, the Regents could set expectations for institutions, either by establishing specific SCH/FTE targets or setting requirements for trends, such as requiring the metric to improve/increase annually. Regardless of future decisions, the Regents should remember that SCH/FTE should and will differ by institution type (as defined by Carnegie classification), and most importantly by discipline. For example, a faculty member in a psychology department who delivers lectures to 100 students will produce more student credit hours than a faculty member in art who teaches studio courses to 10 students. Setting institutional targets requires considering the teaching expectations and discipline mix at the institution and clarity that targets are not for individual faculty members.

The workload analysis is at the institution level and not the department level due to the lack of standard practices in terms of departmental organization across the institutions. If the Regents would like a deeper understanding of teaching and credit production activity by academic discipline or department, a structure must be developed to align departments across institutions, if only for the purposes of assessment (and not changing practices at the institutions themselves). For example, rpk worked with KBOR staff and institutions to map existing institutional departments to meta-departments. Using CIP codes as a guide, meta-departments map existing academic departments across universities to establish a common unit for comparison. While not part of the final Workload Review analysis, meta-departments demonstrate a possible method to mitigate variances across institutions to facilitate a seamless system comparison.

Conclusion and Next Steps

With these two analyses, agency is assigned to appropriate stakeholders. The Regents realize important information and frameworks from which to continue the evaluation and monitoring of institutions, and sound foundations for future policy action related to modifying the program review process and setting workload expectations. Institutions gain clarity and transparency into their student success outputs in terms of headcount enrollment, degree production, and new awareness of teaching activity relative to the other institutions in the Kansas Board of Regents system. This transparency and data should support institutions as they manage themselves and their own portfolio of academic offerings.

As mentioned throughout the report, both analyses require a commitment to procedures and processes to realize maximum benefit for the system and institutions, the Regents should continue to request that KBOR staff execute these analyses on an annual basis. Effort has been made throughout the project to use data already available to KBOR staff where possible and minimize the labor on behalf of institutions when additional data was required. The only significant new collection of data this report necessitated was the collection of faculty data. KBOR staff, in coordination with institutions, should include that in annual collections so that the Teaching Workload Review can be replicated annually.

Transparency naturally leads to accountability and monitoring, which is the path KBOR should keep in mind as these analyses are produced and normalized. Institutions can choose to respond to the data, making decisions around program offerings and faculty's teaching workload management in response to the trends they see for themselves and the system, and eventually the Regents can set firmer expectations for institutional responses. Within this coordinated effort, assurances will be developed and articulated that the system and its institutions are responding to the needs of students through responsive academic programs delivered by expert faculty.

Appendix A: Communication Processes and Stakeholder Engagement

The stakeholder groups regularly engaged throughout this project are detailed below. By request, rpk along with KBOR staff, met with stakeholders from each institution individually to discuss data collection and analyses.

The Steering Team was made up of individuals from each institution, KBOR Staff, and representative Regents. The Steering Team met a total of six times to receive project updates, ask questions, and review the work.

The Data Team included institution's Chief Information Research Officer as well as other individuals from each institution who were most familiar with the data required for the analysis. The Data Team met a total of nine times and was essential to shaping the methodology for the analyses.

The third constituency that was engaged throughout was the Faculty Advisory Group, composed of a faculty leader from each campus. The group met four times to receive project updates and ask questions as needed.

All group membership and meeting dates are captured in Table 5.

In addition to engaging the three different project groups, rpk and KBOR maintained a website that housed project updates, notes and presentations from meetings, recordings where available, and a feedback form that anyone could submit to ask a question or provide a comment related to the project. Over the course of the project, rpk received 21 submissions related to the project. Individuals who submitted questions and provided contact information received a direct answer to their question from rpk within three working days. To increase transparency, all questions were anonymized and along with rpk's answers, shared on the project's website.

Table 5: Project Teams Engaged, Membership, and Meeting Dates

	Steering Team	Data Team	Faculty Advisory Group
Emporia State University	Diana Kuhlman - Vice President for Administration & Finance JoLanna Kord, Ph.D. – Assistant Provost Ray Lauber – Executive Director of Human Resources	JoLanna Kord, Ph.D. – Assistant Provost of Institutional Effectiveness Christy Schreck – Assistant Director, Institutional Research	Brenda Koerner, Ph.D.- Associate Professor, Faculty Senate President, 2021-2022
Fort Hays State University	Jill Arensdorf, Ph.D. – Provost Angela Pool-Funai, Ph.D. - Assistant Provost/Dean of the Graduate School Joe Bain, J.D. - University General Counsel	Kristi Mills – Institutional Research Manager, Institutional Research Min Sangki, Ph.D. – Assistant Vice President, Institutional Effectiveness Darren Stieben – Coordinator, Institutional Research	Janet Stramel, Ph.D. – Professor, Faculty Senate President, 2021-2022
Kansas State University	Chuck Taber, Ph.D. – Provost Tanya Gonzalez, Ph.D. – Interim Associate Provost Debbie Mercer, Ph.D. – Dean, College of Education	Bin Ning, Ph.D. – Associate Provost, Institutional Research and Assessment David Warren – Senior Data Analyst – Institutional Research	Laura Littrell, Ph.D. – Director, Faculty Senate President, 2021-2022
Pittsburg State University	Howard Smith, Ph.D. – Provost Paul Grimes, Ph.D. – Dean of Kelce College of Business Jamie Brooksher, J.D. – University General Counsel	Tammy Higgins – Director of Institutional Research Melinda Roelfs – Registrar	Amy Hite, DNP – Professor, Faculty Senate Executive Committee, 2022-2023
Wichita State University	Shirley Lefever, Ph.D. – Provost Linnea GlenMaye, Ph.D. - Associate Vice President for Academic Affairs Ashlie R. Jack, Ph.D. - Associate Vice President for Institutional Effectiveness	Tiffany Franks – Assistant Director, Office of Planning & Analysis David Smith – Senior Research Analyst, Office of Planning & Analysis David Wright, Ph.D. – Chief Data Officer and Associate Vice President	Jeff Pulaski, M.F.A. – Director, Professor of Graphic Design
University of Kansas	Barb Bichelmeyer, Ph.D. – Provost Jen Roberts, Ph.D. – Vice Provost of Academic Affairs	Gwen Bohling – Assistant Director for Official Reporting	Nate Brunsell, Ph.D. – Professor, Faculty Senate President-Elect, 2022-2023
University of Kansas Medical Center		Matt Schuette, Ph.D. – Associate Director of Institutional Research, Medical Center	Holly Hull, Ph.D., Associate Professor - Faculty Assembly Committee Chair, 2021-2022
Engagements	June 28, 2022, July 21, 2022, August 25, 2022, September 22, 2022, October 27, 2022, and December 1, 2022	April 7, 2022, June 1, 2022, June 22, 2022, July 13, 2022, July 28, 2022, August 10, 2022 August 24, 2022, October 19, 2022, and December 1, 2022	May, 19, 2022, August, 16, 2022 November 9-10, 2022, and December 1, 2022

Appendix B: Additional Academic Portfolio Review Methodology

Data Collection:

- All data collected through KBOR
- Headcount and degree production collected through KBOR academic year (AY) collection
- Retention and graduation collected through KBOR fall semester AY collection
- Wage and employment data: Unemployment Insurance (UI) Program Wage Records from the Kansas Department of Labor and Missouri Department of Labor & Industrial Relations Research, provided by KBOR

Methodology Details:

- Unit of Analysis: 4-digit classification of instructional program (CIP) code and degree level (bachelors, masters, doctoral)
- Years of analysis: academic year (AY) 2017 – 2021
 - The academic year incorporates summer, fall, and spring
 - Example: AY 2017 = summer 2016, fall 2016, spring 2017
- Unless specified in definition, data include both full-time and part-time students
- All metrics are duplicated, meaning students with multiple majors or who complete multiple degrees are counted for each they are enrolled in or completed

Excluded Programs:

- Programs with no headcount during years of analysis AY 2017 - AY 2021
- Inactive and Hold program status (based on 2022 program inventory)
- Phased programs unattached to a similar active status program
- Professional programs
- Doctor of Professional Practice (DOCPP) award level
- Total excluded programs: 197 (or 19% of all programs at the 6-digit CIP code level)

Unit of Analysis:

- To accommodate for inconsistent use of 6-digit CIP codes, rpk used the 4-digit CIP code to allow for comparison of similar programs across institutions
- Using 4-digit CIP + stats description (degree level) creates instances of multiple programs being rolled up into the unit of analysis (88 4-digit programs, 13% of all programs, have more than one 6-digit program in the grouping, which can hide small programs)

Appendix C: Additional Workload Analysis Methodology

Data Collection:

- Years of analysis – 2017-2021
- Terms – Summer, Fall, Winter, Spring
- Total Student Credit Hours as reported by institutions were the earned credit from all enrolled students
- Total Student Credit Hours were assigned to an academic department based on a mapping of course subjects provided by institutions
- Credit Hours associated with a course were derived from total student credit hours and enrolled count

Course Data Methodology Details:

- Course Levels were assigned using the criteria of:
 - Developmental - CEP, DENGL, DMATH, DREAD and INENG
 - Undergraduate - UGRDL, UGRDL, UGRDU, UGRDU, UGRDU-IP, UGRDL, and UGRDL-IP
 - Graduate - GRAD and THEDS
- Cross-Listed Course Sections were assigned a primary section using the criteria of:
 - Section with higher enrollment, became primary, if equal then
 - Section with higher student credit hours became primary, if equal then,
 - Section with lower course ID became primary, if equal then,
 - Section with the lower course registration number (CRN) became primary

Faculty Data Methodology Details:

- Full-time Faculty
 - Instructors were considered full-time faculty if they appeared in institution's full-time faculty file during a term year of analysis (2017-2021).
 - Full-time faculty FTE were assigned to the home department of the faculty member.
 - Full-time faculty = 1FTE
- Part-time Faculty
 - Instructors were considered part-time faculty if they did not appear listed in the full-time faculty file during a term year of analysis (2017-2021)
 - FTE for part-time faculty was a calculated value of 1 FTE = 24 credit hours.
 - Calculated part-time FTE = (Credit Hours/Count of Unique Instructors)/24
 - example: $(3/2)/24 = .0625$ PT FTE
 - Part-time faculty FTE were assigned to the home department of the course subject.
 - Course sections with zero student credit hours were allocated one credit hour to allow for part-time FTE calculation
 - Cross-listed course sections taught by the same part-time faculty member in the same term year and reporting period were excluded from part-time FTE calculations

Appendix D: Labor Market Employment, Wage and Gap Analyses

Within the Academic Portfolio Review framework, the wage, employment, and labor market gap analyses are structured as secondary metrics. This is reflective of the defined geographical area from which wage and employment data are available, employment not being defined as connected to a degree, as well as the gap analysis being more attuned to how new programs might be considered. These data may still provide additional clarity and direction for the system and institutions.

Example I: Use-case of Labor Market Wage, Employment, and Gap Analyses as Secondary Metrics for Optimizing Existing Programs

The bachelor's degree in Social Work is duplicated at five institutions. In four out of five institutions this program is categorized as optimize. This degree has a strong labor outlook. Data demonstrates graduates from these programs have moderate labor outcomes (below median wages but above median employment). As institutions optimize this offering, attention could be paid to ensuring that students 1) receive degrees and 2) are made aware of how those degrees can be of immediate value.

Example II: Use-case of Labor Market Gap Analyses as Secondary Metrics when Considering New Programs

The labor market gap analysis highlights a weak outlook (-10.8% regional job growth) for the occupational category "Adult Basic and Secondary Education and Literacy Teachers and Instructors." This occupation is mapped to four existing programs in KBOR's academic portfolio. If additional programs were proposed that mapped to this occupation, the system and institutions should understand how those offerings are distinct from existing offerings and present opportunities for graduates that counter presented job projections.

KBOR Labor Market Wage and Employment Analysis

The labor market wage and employment analysis examined the outcomes of recent KBOR graduates in the region. This information provides context on the proportion graduates that are employed in Kansas or Missouri and their wages. The program-level wage and employment rates should not be used to evaluate the economic effectiveness of individual programs because some graduates may have relocated and secured employment outside the region.

Labor Market Wage and Employment Data

- The wage and employment data includes the same program adjustments and exclusions that were applied to rpk's academic portfolio framework.
- Unemployment Insurance Program wage records provided to KBOR by the Kansas Department of Labor and the Missouri Department of Labor & Industry.
- Annual data for 2017-2021 was aggregated to the KBOR program level (4-digit Classification of Instructional Program (CIP) categories).
 - Each year of data (2017-2021) included the number of KBOR graduates during the prior year (graduation years 2016-2020), the number of those graduates employed in KS or MO in the 6th calendar quarter following graduation (e.g., one year after graduation), and the aggregate annual wages for those workers.

Labor Market Wage and Employment Methodology

- Wage data includes salaries, commissions, bonuses, vacation and holiday pay, severance pay and the cash value of all compensation, including benefits.

- The wages provided were previously annualized by multiplying the quarterly wage times four. rpk GROUP inflation-adjusted the wage data into constant 2021 dollars using the Bureau of Labor Statistics Consumer Price Index (CPI-U).
- Graduates that received multiple degrees in the same year were included in multiple programs in the wage and employment analysis; if those degrees were awarded in the same 4-digit CIP category, their employment and wages were only counted once per program.
- Average annual wages were calculated for recent graduates of each program by dividing aggregate wages in each year by the number of program graduates employed in that same year (one year post-graduation).

In the labor market wage and employment analysis programs are understood as falling into three areas:

- 1) Strong labor market outcomes: above-median wages and employment rate
- 2) Moderate labor market outcome: above-median wage and below median employment rate OR below-median wage and above-median employment rate; and
- 3) Weak labor market outcome: below-median wages and employment rate.

Programs with strong labor market outcomes are serving the local region and their graduates well. They provide graduates with employment opportunities and strong wages, while also supplying the local economy with employees in well-paid jobs. Other programs may be demonstrating weak labor market outcomes because there is little regional opportunity or demand for those workers, or it may also result from employment centers for these graduates concentrated in other areas of the US, or out-of-state KBOR students returning to their place of residence.

KBOR Labor Market Gap Analysis

The labor market gap analysis examined regional occupational employment projections to gauge the alignment between academic programs KBOR currently offers and the current labor market outlook and to identify potential opportunities for new programs to meet growing demand.

Labor Market Gap Analysis Data

- U.S. Department of Labor Classification of Instructional Programs (CIP) and Standard Occupational Code (SOC) Crosswalk (2010 version)
- U.S. Department of Labor occupational education and experience requirements
- U.S. Census American Community Survey, Public-use Micro Sample (PUMS) 2019
- Kansas and Missouri statewide occupational employment projections, 2018-2028
- KBOR program list (2022)
-

Labor Market Gap Analysis Methodology

- The creation of an expanded CIP-SOC Crosswalk that 1) includes CIP by degree and certificate, 2) matches CIPs to SOCs using typical occupational education and experience requirements, and 3) identifies occupations accessible to students with liberal arts Bachelor's degrees and uses that information to tag liberal arts CIP codes
- Kansas and Missouri state occupations were combined into a set or regional employment projections and merged onto the CIP-SOC crosswalk by SOC code
- KBOR program list was merged onto the CIP-SOC crosswalk by CIP code to identify high demand occupations not served by existing KBOR program offerings

Occupations were organized into three groups that are considered secondary metrics within rpk's Academic Portfolio Review framework:

- 1) Strong outlook: above-average job growth and above-median job openings

- 2) Moderate outlook: above-average job growth and below-median job openings OR below-average job growth and above-median job openings
- 3) Weak outlook: below-average job growth and below-median job openings.

Occupations with a with a strong outlook that did not have an associated academic program were identified as areas for potential program opportunities, and those existing programs with a strong employment outlook were identified as strong ongoing opportunity areas.

Labor Market Gap Analysis Summary

Table 6: Potential Program Opportunity Area (No Associated KBOR program; Strong Outlook)⁷

SOC Code	Occupation	Typical Education Level for Occupation Entry*	% New Job Growth 2018-2028	Annual Job Openings 2018-2028	Accessible to Liberal Arts Graduates
21-1011	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	Bachelor's degree	13.4%	220	Yes
131131	Fundraisers	Bachelor's degree	7.1%	485	Yes
13-2021	Appraisers and Assessors of Real Estate	Bachelor's degree	7.0%	240	Yes
41-9031	Sales engineers	Bachelor's degree	6.5%	209	Yes
13-1199	Business Operations Specialists, All Other	Bachelor's degree	6.5%	2,599	Yes
13-1121	Meeting, convention, and event planners	Bachelor's degree	6.2%	515	Yes
21-2021	Directors, religious activities, and education	Bachelor's degree	5.2%	193	Yes
13-1041	Compliance Officers	Bachelor's degree	4.3%	763	Yes

⁷ Labor Market Gap Analysis lists are restricted to occupations where the typical education level for entry is a bachelor's degree or higher.

Table 7: Strong Ongoing Program Opportunity Area (Associated KBOR program; Strong Outlook)

SOC Code	Occupation	Typical Education Level for Occupation Entry*	% New Job Growth 2018-2028	Annual Job Openings 2018-2028	Accessible to Liberal Arts Graduates?
15-1132	Software developers, applications	Bachelor's degree	26.4%	2,303	Yes
13-1161	Market Research Analysts and Marketing Specialists	Bachelor's degree	18.1%	2,190	Yes
11-9111	Medical and health services managers	Bachelor's degree	14.5%	1,163	Yes
29-1141	Registered nurses	Bachelor's degree	13.9%	7,490	
21-1022	Healthcare Social Workers	Master's degree	13.8%	893	
27-2022	Coaches and Scouts	Bachelor's degree	12.6%	1,357	Yes
15-1121	Computer systems analysts	Bachelor's degree	12.2%	1,662	Yes
15-1133	Software Developers, Systems Software	Bachelor's degree	11.9%	760	Yes
13-1111	Management Analysts	Bachelor's degree	11.6%	1,682	Yes
15-1199	Computer Occupations, All Other	Bachelor's degree	11.1%	775	Yes
13-2072	Loan officers	Bachelor's degree	10.5%	1,112	Yes
13-1151	Training and development specialists	Bachelor's degree	10.1%	1,124	Yes
29-2011	Clinical laboratory technologists and technicians	Bachelor's degree	9.2%	998	
23-1011	Lawyers	Doctoral or professional degree	7.7%	1018	
21-1012	Educational, Guidance, School, and Vocational Counselors	Master's degree	7.4%	1572	
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Bachelor's degree	6.7%	822	Yes
21-1021	Child, Family, and School Social Workers	Bachelor's degree	6.2%	1307	Yes
13-1071	Human resources specialists	Bachelor's degree	5.8%	1964	Yes
13-2011	Accountants and Auditors	Bachelor's degree	5.8%	4305	
11-9199	Managers, All Other	Bachelor's degree	5.7%	1311	Yes
11-9021	Construction Managers	Bachelor's degree	5.7%	763	
15-1142	Network and computer systems administrators	Bachelor's degree	5.7%	1073	Yes
13-2052	Personal Financial Advisors	Bachelor's degree	5.4%	753	Yes
41-3031	Securities, Commodities, and Financial Services Sales Agents	Bachelor's degree	5.3%	1098	Yes
27-3031	Public Relations Specialists	Bachelor's degree	5.3%	970	Yes
11-2022	Sales Managers	Bachelor's degree	3.9%	810	Yes

Table 8: Weak Outlook (KBOR has an associated program)

SOC Code	Occupation	Typical Education Level for Occupation Entry*	% New Job Growth 2018-2028	Annual Job Openings 2018-2028	Accessible to Liberal Arts Graduates?
27-3022	Reporters and correspondents	Bachelor's degree	-17.4%	101	Yes
27-3011	Radio and television announcers	Bachelor's degree	-13.5%	181	Yes
25-3011	Adult Basic and Secondary Education and Literacy Teachers and Instructors	Bachelor's degree	-10.8%	39	Yes
13-1011	Agents and business managers of artists, performers, and athletes	Bachelor's degree	-9.2%	12	Yes
17-2161	Nuclear Engineers	Bachelor's degree	-7.7%	9	
13-2081	Tax examiners and collectors, and revenue agents	Bachelor's degree	-6.0%	177	Yes
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	Bachelor's degree	-4.6%	38	Yes
27-2041	Music Directors and Composers	Bachelor's degree	-3.7%	18	Yes
19-1032	Foresters	Bachelor's degree	-2.8%	24	Yes
27-3021	Broadcast News Analysts	Bachelor's degree	-0.9%	28	Yes
19-1023	Zoologists and Wildlife Biologists	Bachelor's degree	-0.4%	47	
27-1014	Multimedia Artists and Animators	Bachelor's degree	-0.3%	140	Yes
23-1012	Judicial Law Clerks	Doctoral or professional degree	0.0%	7	
11-2011	Advertising and Promotions Managers	Bachelor's degree	0.5%	36	Yes
19-3022	Survey Researchers	Master's degree	0.6%	19	
19-1031	Conservation scientists	Bachelor's degree	0.7%	75	
25-2053	Special Education Teachers, Middle School	Bachelor's degree	1.6%	143	
17-2171	Petroleum Engineers	Bachelor's degree	1.9%	12	
25-2032	Career/Technical Education Teachers, Secondary School	Bachelor's degree	2.2%	82	Yes
19-2032	Materials Scientists	Bachelor's degree	2.2%	9	
19-3092	Geographers	Bachelor's degree	2.6%	4	Yes
25-1022	Mathematical Science Teachers, Postsecondary	Doctoral or professional degree	2.6%	100	
19-2099	Physical Scientists, All Other	Bachelor's degree	3.0%	18	
17-2081	Environmental Engineers	Bachelor's degree	3.1%	123	
19-1022	Microbiologists	Bachelor's degree	3.2%	47	
11-1031	Legislators	Bachelor's degree	3.2%	140	
19-3099	Social Scientists and Related Workers, All Other	Bachelor's degree	3.3%	58	
25-1051	Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary	Doctoral or professional degree	3.4%	13	
19-3093	Historians	Master's degree	3.7%	10	
19-1021	Biochemists and Biophysicists	Doctoral or professional degree	3.7%	17	
25-1192	Home Economics Teachers, Postsecondary	Master's degree	3.7%	7	
25-2051	Special Education Teachers, Preschool	Bachelor's degree	3.8%	55	
25-4013	Museum Technicians and Conservators	Bachelor's degree	3.8%	120	Yes