



Kentucky's 2016-21 Performance Metrics Technical Guide

Policy Area 1: Opportunity

Kentucky will be stronger by ensuring postsecondary education is broadly accessible to all residents, students have the support and resources they need to pursue postsecondary opportunities, and all students enter postsecondary education prepared for credit-bearing work.

Objective 1: Improve the diversity and inclusiveness of Kentucky's campuses through the statewide diversity planning process and related initiatives.

1.a. Outcome on Annual Degree Eligibility Review

Definition: This objective is designed to align statewide diversity planning and evaluation with the broader strategic agenda. Institutions track and report on a number of performance metrics through the diversity planning process to maintain eligibility to offer new degree programs. Performance on Objective 1 would be indicated by the positive or negative outcome on an institution's degree eligibility review.

The new [Diversity Policy](#), adopted by the CPE in September 2016, calls for campuses to meet annual performance goals in the following areas:

- Enrollment of African American students as a percent of total enrollment, undergraduate;
- Enrollment of Hispanic or Latino students as a percent of total enrollment, undergraduate;
- Enrollment of URM students as a percent of total enrollment, undergraduate & graduate;
- First- to second-year retention, disaggregated by low-income and URM status;
- Three-year graduation rate (for KCTCS institutions), disaggregated by low-income and URM status;
- Six-year graduation rate (for universities); disaggregated by low-income and URM status;
- Total credentials conferred (for KCTCS institutions); disaggregated by low-income and URM status;
- Bachelor's Degrees conferred (for universities); disaggregated by low-income and URM status;
- Workforce diversity: Four Year Universities: Number of Full-Time URM Tenured/Tenure Track Faculty as a percent of total Full-Time Tenured/Tenure Track Faculty; Number of Full-Time URM Management Occupations as a percent of total Full-Time Management Occupations. KCTCS: Number of URM Full Time Equivalent Instructional Staff as a percent of total Full Time Equivalent Instructional Staff. Number of URM Full-Time staff in Management Occupations as a percent of total Full-Time staff in Management Occupations.

Level: Institution

Data Source: Kentucky Postsecondary Education Database System (KPEDS), Integrated Postsecondary Education Database System (IPEDS)

Operationalization: Performance goals for the metrics above will be established as part of the Strategic Agenda target setting process. Metrics will be reviewed and validated through the Strategic Agenda reporting process. Underrepresented minority includes Black, American Indian or Alaskan Native, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, and two or more races.

Objective 2: Partner with Kentucky’s P-12 system to increase the number of students ready to enter postsecondary degree or certification programs.

2.a. College Readiness of College Entrants

Definition: Percent of recent Kentucky high school graduates entering college in Kentucky who meet statewide standards for readiness in English, mathematics, and reading. Statewide college readiness standards incorporate all entrance exams used in the admissions process and all placement exams taken on campus.

Levels: State

Data Source: Kentucky Postsecondary Education Database System (KPEDS).

Operationalization: These cohorts comprise individuals reported to CPE on the entrance exam file in the year indicated, who were enrolled during that year as first-time, undergraduate, degree or credential-seeking students. The cohort numbers reflect the total number of students for whom college readiness could be determined; students with missing tests and scores were not included in the denominator of the percent. Recent graduates of Kentucky high schools are identified through high school graduation data submitted to CPE by postsecondary institutions and includes graduates of private high schools in Kentucky. Data are not available for students entering AIKCU (independent) institutions. Statewide college readiness standards can be found in Appendix C of this technical guide.

Performance Funding Metric: No

2.b. Progress of Underprepared Students (English)

Definition: Percent of first-time, full-time, degree and credential-seeking undergraduates who are underprepared in *English* who complete a credit-bearing course in *English* by the end of the fall semester the year after entry.

Level: Institution

Data Source: Kentucky Postsecondary Education Database System (KPEDS).

Operationalization: Denominator: First-time, full-time undergraduate degree and credential-seeking students who were underprepared in English (Statewide college readiness standards incorporate all entrance exams used in the admissions process and all placement exams taken on campus.) at entry (summer/fall semester). Numerator: the number who successfully completed at least one non-developmental course during the summer, fall, spring, or following summer /fall semester in English (CIP = 23). Successful course completion is defined as having a CPE standardized grade of A, B, C, D or P. Statewide college readiness standards can be found in Appendix C of this technical guide.

Performance Funding Metric: No

2.c. Progress of Underprepared Students (Mathematics)

Definition: Percent of first-time, full-time, degree and credential-seeking undergraduates who are underprepared in *mathematics* who complete a credit-bearing course in *mathematics or quantitative reasoning* by the end of the fall semester the year after entry.

Level: Institution

Data Source: Kentucky Postsecondary Education Database System (KPEDS).

Operationalization: Denominator: First-time, full-time undergraduate degree and credential-seeking students who are underprepared in mathematics (Statewide college readiness standards incorporate all entrance exams used in the admissions process and all placement exams taken on campus.) at entry (summer/fall semester). Numerator: the number who successfully completed at least one non-developmental course during the summer, fall, spring, or following summer/fall semester in mathematics (CIP = 27). Successful course completion is defined as having a CPE standardized grade of A, B, C, D or P. Statewide college readiness standards can be found in Appendix C of this technical guide.

Performance Funding Metric: No

Objective 3: Increase participation in postsecondary education, particularly among traditionally underserved populations.

3.a. College-going Rate of High School Graduates

Definition: Percent of recent Kentucky high school graduates who attend any Kentucky postsecondary institution the fall or spring after graduation, total and disaggregated by low-income and URM status.

Level: State

Data Source: Kentucky Center for Education and Workforce Statistics (KCEWS)

Operationalization: The percent of recent graduates of Kentucky high schools who enter a Kentucky public or private university the following fall or spring, as a degree- or credential-seeking student or non-degree seeking student.

Performance Funding Metric: No

3.b. Kentucky Residents Ages 25-64 Enrolled in Postsecondary Education

Definition: The percent of Kentuckians ages 25-64 enrolled in a Kentucky postsecondary institution.

Level: State

Data Source: American Community Survey, Kentucky Postsecondary Education Database System (KPEDS)

Operationalization: Denominator: The American Community Survey's estimate of Kentuckians between the ages of 25 and 64 with less than a postsecondary degree. Numerator: The number of students between the ages of 25 and 64 who are enrolled in public or private postsecondary education.

Performance Funding Metric: No

Objective 4: Improve the education and skill levels of Kentucky Adult Education students to prepare them for careers and/or postsecondary education.

4.a. Working-age (18-64) Population without a High School Diploma

Definition: The percent of Kentucky's working-age population without a high school diploma or its equivalent.

Levels: State

Data Source: American Community Survey (ACS) 5-year estimate

Operationalization: Denominator: The total number of Kentucky's working age (18-64) population. Numerator: The number of Kentucky's working-age (18-64) population without a high school diploma or GED®.

Performance Funding Metric: No

4.b. Kentucky Adult Education Students Earning a High School Equivalency Diploma (GED®)

Definition: Number of Kentucky Adult Education students who earn a high school equivalency diploma (GED®) in the fiscal year.

Level: State

Data Source: GED® Testing Service (GEDTS) Data feed

Operationalization: Number of Kentuckians who earn a high school equivalency (GED®) diploma in the fiscal year.

Performance Funding Metric: No

4.c. Percent of Kentucky Adult Education Students Enrolling in Kentucky Postsecondary Education

Definition: Percent of Kentucky Adult Education students who enroll in a Kentucky postsecondary education institution within two years of obtaining a high school equivalency diploma (GED®).

Level: State

Data Source: GED® Testing Service (GEDTS) Data Feed, Kentucky Adult Education Reporting System (KAERS), and Kentucky Postsecondary Education Database System (KPEDS).

Operationalization: Numerator: Number of Kentuckians who earned a GED® and enrolled in a Kentucky postsecondary institution within the following two years. Denominator: The number of Kentuckians who earned a GED® within one year.

Performance Funding Metric: No

Objective 5: Expand financial access to postsecondary education

5.a. Net General Fund Appropriations

Definition: Net general fund appropriations for public postsecondary institutions (adjusted for inflation) per full-time equivalent student.

Levels: State and Sector

Data source: The Budget of the Commonwealth, [HEPI index](#)

Operationalization: Amount of the state General Fund final appropriations (minus debt service and UofL hospital contract) to public postsecondary institutions and KCTCS during the state fiscal year (July 1 - June 30), adjusted for inflation using the Common Fund Higher Education Price Index (HEPI) as an inflation index. Note: The state General Fund final appropriations would be the level of state appropriations an institution actually received during a fiscal year and does not include state financial aid provided to students.

Performance Funding Metric: No

5.b. Average Net Price

Definition: The total cost of education for a first-time, full-time undergraduate student, minus any grant or scholarship aid.

Levels: State and Sector

Data source: IPEDS

Operationalization: In IPEDS, average institutional net price is generated by subtracting the average amount of federal, state/local government, or institutional grant and scholarship aid from the total cost of attendance. Total cost of attendance is the sum of published tuition and required fees (lower of in-district or in-state for public institutions), books and supplies, and the weighted average for room and board and other expenses. Cost of attendance data are collected in the Institutional Characteristics (IC) component of IPEDS, and financial aid data are collected in the Student Financial Aid (SFA) component of IPEDS.

Performance Funding Metric: No

Policy Area 2: Success

Kentucky will be stronger by ensuring that many more individuals complete a postsecondary degree or credential, and that they graduate with the skills and abilities to be productive, engaged citizens.

Objective 6: Increase persistence and timely completion for all students at all levels, particularly for low-income and underrepresented minority students.

6.a. Three-year Graduation Rate of First-time, Full-time Associate Degree or Credential-seeking Undergraduate Students (KCTCS only).

Definition: First-time, full-time, associate or credential-seeking students entering in the fall semester (or entering in the summer and continuing in the fall), who graduate with an associate degree or credential within three years from their institution of entry, total and disaggregated by low-income and URM status.

Levels: KCTCS

Data Source: Kentucky Postsecondary Education Database System (KPEDS)

Operationalization: Students included in the IPEDS GRS cohort are identified in data submitted to CPE at their time of entry. At the end of three years, members of the cohort are matched against degree or credential completions to determine which students graduated within three years. At the end of the period, students meeting federal standards for exclusion from the entering cohort are removed from the cohort in consultation with institutional staff. Underrepresented minority includes Black, American Indian or Alaskan Native, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, and two or more races. Low income is defined as Pell recipient during year of entry.

Performance Funding Metric: No

6.b. Six-year Graduation Rate of First-time, Full-time Baccalaureate Degree-seeking Undergraduate Students

Definition: First-time, full-time bachelor's degree-seeking students entering in the fall semester (or entering in the summer and continuing in the fall), who graduate with a bachelor's degree within six years from their institution of entry, total and disaggregated by low-income and URM status.

Levels: State and Institution

Data Source: Kentucky Postsecondary Education Database System (KPEDS)

Operationalization: Students included in the IPEDS GRS cohort are identified in data submitted to CPE at their time of entry. At the end of six years, members of the cohort are matched against degree completions to determine which students graduated within six years. At the end of the period, students meeting federal standards for exclusion from the entering cohort are removed from the cohort in consultation with institutional staff. Underrepresented minority includes Black, American Indian or Alaskan Native, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, and two or more races. Low income is defined as Pell recipient during year of entry.

Performance Funding Metric: No

6.c. First- to Second-year Retention

Definition: The percentage of first-time, degree (or credential, KCTCS)-seeking students who return to the institution to continue their studies the following fall, total and disaggregated by low-income and URM status.

Level: State and Institution

Data Source: Kentucky Postsecondary Education Database System (KPEDS)

Operationalization: A measure of the rate at which students persist in their educational program at an institution, expressed as a percentage. For four-year institutions, this is the percentage of first-time, full-time bachelor's (or equivalent) degree-seeking undergraduates from the previous summer/fall who are again enrolled in the current fall. For KCTCS institutions, this is the percentage of first-time degree- or credential-seeking students from the previous summer/fall who either re-enrolled or successfully completed a credential by the current fall. At the end of the period, students meeting federal standards for exclusion from the entering cohort are removed from the cohort in consultation with institutional staff. Underrepresented minority includes Black, American Indian or Alaskan Native, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, and two or more races. Low income is defined as Pell recipient during year of entry.

Performance Funding Metric: No

6.d. Average Number of Credit Hours Earned

Definition: Average credit hours earned by bachelor's degree graduates at four-year institutions and by associate degree graduates at KCTCS

Level: State and Institution

Data Source: Kentucky Postsecondary Education Database System (KPEDS)

Operationalization: The average number of credits earned at the time of graduation, including credit transferred into the degree-granting institution. Includes the number of hours accepted in transfer, but does not include hours for developmental or remedial courses and does not include credit hours for persons earning a second degree at the same level in the same year.

Performance Funding Metric: No

6.e. Student Progression (Funding Model Metric Only)

Four-Year Institutions Only

Definition: The number of full- and part-time undergraduate students reaching or surpassing 30, 60, or 90 cumulative earned credit hours in a given academic year as defined by student classification.

Levels: State and Institution

Data Source: Kentucky Postsecondary Education Database System (KPEDS)

Operationalization: Distinct count of undergraduate degree seeking students (classification: 01, 02, 03, 04), whose classification increases throughout the year (Fall, Spring, Summer, Fall) or receives a baccalaureate degree by the trailing summer. Students count once at the highest progression threshold.

Performance Funding Metric: Yes.

KCTCS Institutions Only

Definition: The number of full- and part-time undergraduate students reaching or surpassing 15, 30, or 45 cumulative earned credit hours in a given academic year.

Levels: State and Institution

Data Source: Kentucky Postsecondary Education Database System (KPEDS)

Operationalization: Distinct count of undergraduate degree and credential seeking students reaching the credit hour thresholds of 15, 30, and 45 credit hours earned as defined as receiving a standard letter grade of A,B,C,D,P in a credit bearing course. Students count once at the highest progression threshold.

Performance Funding Metric: Yes.

6.f. Six-Year College Completion Rate

Definition: First-time undergraduate degree or certificate-seeking students that complete any degree or certificate within six years.

Level: State

Data Source: The Signature Report on Student Completion – National Student Clearinghouse

Operationalization: Cohorts are defined as follows: For students who started at four-year institutions, they must have been enrolled at least one term with an intensity of half-time or higher. For students who started at two-year institutions, they must have been enrolled full-time for at least one term by the start of the following fall term or at least half-time for any two terms by the end of the following fall term.

Performance Funding Metric: No

Objective 7: Increase the number of KCTCS students who complete career-oriented certificates and associate degree programs and successfully transfer to four-year institutions.

7.a. Transfer Students Entering Four-year Institutions with an Associate Degree

Definition: Percent of KCTCS students who earn an associate degree and then transfer to a four-year institution by the next Academic Year.

Levels: KCTCS

Data Source: National Student Clearinghouse, KCTCS

Operationalization: Transfers in an academic year calculated based on a cohort of students who were awarded an associate's degree at KCTCS in the prior academic year who enrolled at a four-year institution between the term end date of their first associate award in the prior academic year through June 30th of the academic year.

Performance Funding Metric: No

7. b. Transfer Students Entering Four-year Institutions (Funding Model Metric Only)

Definition: Number of KCTCS students who transfer to a four-year institution by the next academic year.

Levels: KCTCS

Data Source: National Student Clearinghouse, KCTCS

Operationalization: Transfers in an academic year calculated based on a cohort of students enrolled at KCTCS in the prior academic year who enrolled at a four-year institution between the term end date of their maximum KCTCS enrollment term in the prior academic year through June 30th of the academic year. Exclusions: students who re-enrolled at KCTCS in the academic year, students who enrolled at a non-KCTCS non-four year institution within the noted timeframe prior to the four-year institution, and students who were previously reported as a four-year transfer (from 2008-09 through current).

Performance Funding Metric: Yes

Objective 8: Promote academic excellence through improvements in teaching and learning.

8.a. Academic Quality

Definition: Each campus will identify a measure of academic quality from the list below that reflects a high-impact educational practice.

- *Study Abroad/Study Away* - the percent of students graduating within a given year (summer, fall, spring) that have participated in a postsecondary-level study abroad experience that would qualify for academic credit, or be involved with a study away experience that results in academic course credit.
- *Service Learning/Community Outreach* - the percent of students graduating within a given year (summer, fall, spring) that has participated in an institutional-level service learning or community learning experience that would result in academic course credit, or be a portion of an academic credit-bearing course in which the student participates in at least 15 hours of service learning or community service time. (Metric measured by each institution's specific office(s) or another campus designee and certified by the Provost's Office)
- *Undergraduate Research and Creative Works* - the percent of students graduating within a given year (summer, fall, spring) with a baccalaureate degree that has participated in an institutional-level undergraduate research experience/creative experience that culminates in completion of one of the following: at least one peer-reviewed presentation/publication, an exhibition/ performance, or at least one mentored, out-of-class presentation that exhibits the student's research outcomes.
- *Value-Added Certificates and/or Other CTE Workforce Statistics (KCTCS)* - the percent of students that complete a value-added certificate resulting in academic credit that is used to enhance the student's skill set and/or experience. These certificates can be embedded into the existing two-year, four-year, or graduate curriculum.

Level: Institution

Data Source: Institution

Operationalization: Metric measured by each institution's specific office(s) or another campus designee and certified by the Provost's Office.

Performance Funding Metric: No

8.b. Academic Excellence

Definition: Each campus will identify a measure of academic excellence or quality educational outcome from the list below:

- *Passage Rates on Licensure/Certification Exams* – KCTCS: Pass rates for technical programs on a recognized credential that validates an individual has successfully demonstrated skill competencies in a core set of content and performance standards in a specific set of work-related tasks, single occupational area, or a cluster of related occupational areas. (Note: Similar to Perkins definition for technical programs for federal reporting)
- *Number of Peer-Reviewed Academic Publications* - Number of peer-reviewed faculty publications in a given academic year (summer, fall, spring).
- *Average ACT/SAT*
- *Master's Degrees with Thesis* - The number of students earning a master's degree within a given year (summer, fall, spring) who complete a thesis project that is certified by and deposited with the Graduate School.
- *Faculty Development/Training* - the total number of hours of training the faculty has received each year related to pedagogical development and other relevant topics. This training may be offered through the institution's faculty development center as well as other internal and external entities.

Level: Institution

Data Source: Institution

Operationalization: Metric measured by each institution's specific office(s) or another campus designee and certified by the Provost's Office.

Performance Funding Metric: No

Policy Area 3: Impact

Kentucky will be stronger by training a globally competitive, entrepreneurial workforce; educating an engaged, informed citizenry; improving the health and well-being of families; and producing new research and discoveries that fuel job creation and economic growth.

Objective 9: Improve the career readiness and employability of postsecondary education graduates.

9.a. Educational Attainment

Definition: The percent of Kentuckians ages 25-64 with a postsecondary certificate or degree

Levels: State

Data Source: National Center for Higher Education Management Systems (NCHEMS)

Operationalization: American Community Survey analysis

Performance Funding Metric: No

9.b. Degrees and Credentials Awarded

Definition: For KCTCS institutions: Total number of credentials awarded during an academic year (July 1 through June 30), disaggregated by STEM+H, low-income, URM, Underprepared, Targeted Industry, and High Wage High Demand. For Four-Year Institutions: Number of bachelor's degrees awarded during an academic year (July 1 through June 30), disaggregated by STEM+H, low-income and URM status; and the number of graduate and professional degrees combined.

Levels: State and Institution

Data Source: Kentucky Postsecondary Education Data System (KPEDS)

Operationalization: Counts are generated from student-level degree records. Multiple awards received by the same student during the period are all included, such as students receiving more than one short-term certificate, or students graduating with two bachelor's degrees (as with some double majors). Graduate and profession degrees include Master's, Specialist, Doctoral-Research/Scholarship, Doctoral-Professional Practice, and Doctoral-Other. Undergraduate and graduate certificates are not included in this metric for four-year institutions. Underrepresented minority includes Black, American Indian or Alaskan Native, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, and two or more races. Low income is defined as Pell recipient at any time from 2005-06 and forward at the graduating institution for four-year institutions and at any KCTCS institution for KCTCS campuses. CPE STEM+H CIP Code list is posted annually in the CDB Guidelines.

Performance Funding Metric: Yes. For KCTCS, the Performance Funding Model includes the total number of credentials awarded weighted by URM, low income, STEM+H, Underprepared, Targeted Industry, and High Wage High Demand. For the universities, the Performance Funding Model includes the total number of bachelor's degrees awarded, weighted by URM, low income and STEM+H.

9.d. Non-credit Workforce Training

Definition: Number of credit hours of workforce non-credit courses (clock hour conversion to credit hours).

Level: KCTCS only

Data Source: KCTCS

Operationalization: Non-credit clock hour training is based on the fiscal year (July 1 to June 30). Total Clock Hours is the total hours taught for the fiscal year. The definition is the number of clock hours by course multiplied by the number of individuals in the class. Credit Hour Conversion is based on converting the clock hours into credit hours equating 15 clock hours to one credit hour.

Performance Funding Metric: No

9.e. Internships/Co-ops/Clinical Learning Experiences

Definition: The percent of students graduating within a given year (summer, fall, spring) receiving a degree (associate or baccalaureate) who has participated in an internship, cooperative work experience, or clinical learning experience that would qualify for academic credit (includes student teaching and apprenticeships/practicums that encompass an entire academic credit-bearing course). Institutions should use student enrollment in actual internship, coop, clinical, practicum, apprenticeship, and student teaching courses, and not experiences embedded in other courses.

KCTCS will receive credit for students at the point of graduation with an associate degree. Four-year institutions will receive credit for any applicable transfer students at the point of baccalaureate graduation if the academic course with the internship or clinical experience is accepted and utilized for degree attainment by the 4-year institution.

Level: Institution

Data Source: Institution

Operationalization: Metric measured by each institution and certified by the Provost's Office.

Performance Funding Metric: No

9.f. Degree Graduates Working or Pursuing Additional Education

Definition: The percent of associate and baccalaureate degree graduates working in Kentucky or pursuing additional education a year after graduation.

Level: State

Data Source: Kentucky Center for Education and Workforce Statistics (KCEWS)

Operationalization: The percent of associate or baccalaureate degree graduates working in Kentucky for at least one quarter for the year starting six months after graduation (i.e. October 1, 2015-September 30, 2016 for spring 2015 graduates), as determined by Kentucky unemployment wage records and/or enrolled in additional education in Kentucky the year following graduation. For 2015 graduates, information would be available in the spring of 2017.

Performance Funding Metric: No

Objective 10: Increase basic, applied, and translational research to create new knowledge, accelerate innovation, and promote economic growth.

10.a. Extramural Research Expenditures

Definition: Amount of research and development expenditures in science and engineering from federal, state, local, corporate, foundation, and institutional funding.

Level: Sector and Institution (Research Campuses)

Data Source: National Science Foundation (NSF) Survey of Research and Development Expenditures at Universities and Colleges

Operationalization: Numbers reflect Institutionally Financed Academic R&D Expenditures during the institutionally-defined fiscal year. This metric is expressed in millions of dollars at the statewide level and thousands of dollars at the institutional level. AIKCU institutions do not receive research and development funds and are not included in this metric.

Performance Funding Metric: No

10.b. Extramural Research Expenditures, Excluding Institutional Funding

Definition: Amount of research and development expenditures in science and engineering from federal, state, local, corporate, and foundation funding, but excluding institutionally-funded research.

Level: Sector and Institution (Research Campuses)

Data Source: National Science Foundation (NSF) Survey of Research and Development Expenditures at Universities and Colleges

Operationalization: The total extramural research and development expenditures are calculated by subtracting Institutionally Financed Academic R&D Expenditures from Total Academic R&D Expenditures. Numbers reflect expenditures during the institutionally-defined fiscal year. This metric is expressed in millions of dollars at the statewide level and thousands of dollars at the institutional level. AIKCU institutions do not receive research and development funds and are not included in this metric.

Performance Funding Metric: No

Objective 11: Expand regional partnerships, outreach and public service that improve the health and quality of life of Kentucky communities.

11.a. Regional Partnerships, Stewardship, and Public Service

Definition: Institutions' annual performance presentations to the Council will include information highlighting regional development activities, outreach and public service that have a demonstrated, quantifiable impact, address regional priorities, and engage community partners such as businesses, government or non-profits.

Level: Institution

Data Source: Institution

Operationalization: none

Performance Funding Metric: No

Appendix A: Terms and Acronyms

AIKCU: Association of Independent Kentucky Colleges and Universities represents Kentucky's 19 nonprofit, non-tax supported, four-year colleges and universities accredited by the Southern Association of Colleges and Schools (SACS).

CIP (Classification of Instructional Programs): A taxonomic scheme that supports the accurate tracking, assessment, and reporting of fields of study and program completion activity.

CPE (Kentucky Council on Postsecondary Education): The Council on Postsecondary Education coordinates change and improvement in Kentucky's postsecondary education system as directed by the *Kentucky Postsecondary Education Improvement Act of 1997*.

CPE standardized grade: A letter (category) into which similarly valued, institutionally assigned end-of-term grades are grouped by CPE for reporting purposes. They simplify communication and ensure fair use and interpretation. Details are available in the CDB Guidelines Book.

GED®: GED® Testing Service, a program of the American Council on Education, develops, delivers and safeguards the GED® (General Education Development) tests. It provides adults who did not complete a formal high school program the opportunity to certify their attainment of high school-level academic knowledge and skills.

IPEDS (Integrated Postsecondary Education Data System): A system of interrelated surveys conducted annually by the U.S. Department of Education's National Center for Education Statistics (NCES). IPEDS gathers information from every college, university, and technical and vocational institution that participates in the federal student financial aid programs.

KCEWS (Kentucky Center for Education and Workforce Statistics): A state agency that collects and links data to evaluate education and workforce efforts in the Commonwealth. This includes developing reports and providing statistical data about these efforts so policy makers, agencies, and the general public can make better informed decisions. This includes maintaining the Kentucky Longitudinal Data System (KLDS), a statewide longitudinal data system, as well as responding to requests for data and information, and providing reports on a number of topical areas including feedback about the performance of high school graduates after they go to college, developing the Kentucky County Profiles, and information about the outcome of teacher preparation, college, adult education, and other programs.

KPEDS (Kentucky Postsecondary Education Data System): The central repository for data about Kentucky's postsecondary institutions and their students. Data are provided by each public and participating not-for-profit institution on a scheduled basis with consistent definitions and in a prescribed format.

KYAE (Kentucky Adult Education): Kentucky's statewide initiative to improve the educational status of adult Kentuckians who lack a high school diploma, function at low levels of literacy or want to learn English.

NCHEMS (National Center for Higher Education Management System): A private nonprofit organization whose mission is to improve strategic decision making in higher education for states and institutions in the United States and abroad.

Operationalization: Detailed guidelines for creating or replicating a metric.

Performance metric: Used to measure achievement of or progress toward a policy objective.

Appendix B: College Readiness

Council on Postsecondary Education Operationalization of College Readiness

Effective for the 2016-17 Collection Year

March 2016

This document describes CPE's process of reconciling scores on various entrance and placement exams for students with multiple results on different tests. This categorization schema has been developed to best reflect campus placement practices and replaces prior methods of categorization used by CPE. This categorization schema is for state reporting use ONLY and has no regulatory bearing on campus-level policy or practice.

1. Exam-level college readiness is determined first

- a. Benchmarked exams: Students presenting scores on entrance and placement exams for which statewide college readiness benchmarks have been established, are coded 'ready' if their score meets or exceeds the benchmark; 'not ready' if it does not. Statewide benchmarked exams, including ACT and SAT subscores, and their minimum readiness scores are listed in the accompanying table. (Relevant KPEDS fields: ACT Math, SAT Math, KYOTE College Algebra Domain, etc.)
- b. Institutional placement exams: Students reported by the institution as 'ready' or 'not ready' based on a non-benchmarked, institutional placement exam, evaluation of transfer credit, etc. are coded as reported. The reporting codes are '1' (college-ready), '2' (not college-ready, placed in supplemental/corequisite course), '3' (not college-ready, placed in developmental course), and '4' (not applicable – student not given institutional assessment). (Relevant KPEDS fields: institutional placement math, English, or reading)
- c. Prior coursework exemptions: Entering students with college-level work may be exempt from placement testing if judged by the institution as 'ready' in a subject area. Students identified as 'exempt' are coded as 'ready'. Identification as 'not exempt' has no effect in determining subject-level or overall readiness. (Relevant fields: Math, English or reading exemption flag.)

2. Subject-level college readiness is determined

- a. All exam-level readiness indicators for subject (math, English, reading) are pooled by student and examined for any evidence of college readiness.
- b. Subject-level readiness is determined in the following order
 - i. Students identified as 'exempt' (in 1c. above) are assigned a subject-level readiness of 'ready'.
 - ii. Students with at least one indicator of college readiness as generated in 1a. or 1b. (above) are assigned a subject-level readiness of 'ready'
 - iii. Students for whom all exam-level readiness codes are missing, are assigned a subject-level readiness code signifying 'missing' (i.e., <NULL>)
 - iv. Remaining students with a combination of 'not ready' and missing indicators of college readiness in a subject are assigned a subject-level readiness of 'not ready'.

Appendix B: College Readiness

3. **Overall college readiness is based on subject-level college readiness in the three subject areas (writing, reading, and mathematics)**
- Students are classified as college-ready overall if they are deemed college-ready on all reported subjects for which there are statewide standards for college readiness (currently writing, reading, and mathematics).
 - Students are not college-ready if they are 'not ready' in one or more subjects.
 - Missing or null values are not included in the calculation of a student's overall college readiness. The Table 1 (below) describes the possible combinations of readiness levels by subject and the resulting determination of overall college readiness.

Table1. Determining Overall College Readiness

College-Ready in English	College-Ready in Mathematics	College Ready in Reading	College-Ready Overall?
Ready	Ready	Ready	Yes
All combinations of two "Ready" and one missing			
All combinations of one "Ready" and two missing			
Not Ready	Not Ready	Not Ready	No
All combinations of two "Not Ready" and one "Ready" or missing			
All combinations of one "Not Ready" and two "Ready" or missing			
Missing	Missing	Missing	Null/Missing

Appendix B: College Readiness

Table2. Minimum Readiness Scores on Standardized On-Campus Placement Exams by Entering Class

Mathematics (exam code)	2009 and previous years	2010 to March 2016	March 2016 to May 2017	May 2017 and following years
ACT Math	18	19	19	19
SAT Math*	430	460	460	460
Accuplacer Mathematics - Any (03, 04, 21, not classified)		Report as Other Institutional Placement	n/a	n/a
Asset College Algebra (11)		Report as Other Institutional Placement	n/a	n/a
Asset Elementary Algebra (09)	41***	41****	41	41
Asset Intermediate Algebra (10)	38***	39****	39	39
Asset Numerical Skills (07)		Report as Other Institutional Placement	n/a	n/a
COMPASS Algebra Domain (16)	35***	36****	36	36
COMPASS College Algebra Domain (17)		Report as Other Institutional Placement	50	50
Other COMPASS Mathematics (15, 17, 18, 19)		Report as Other Institutional Placement	n/a	n/a
KYOTE (College Readiness Math) (22)		22****	22	22
KYOTE (College Algebra Domain) (23)		14	14	14
KYOTE (Calculus) (24)		15	n/a	n/a
GED Mathematical Reasoning			165	165
PARCC Mathematics			Level 4 or higher	Level 4 or higher
Smarter Balanced Mathematics			4	4
English (exam code)				
ACT English	18	18	18	18
SAT Writing OR	430	430	430	430
SAT Critical Reading* OR	450	n/a		
SAT Evidenced-Based Reading & Writing OR			430	430
SAT Writing and Language Test				25
Accuplacer English Exams - Other (02, 05, not classified)		Report as Other Institutional Placement	n/a	n/a
Accuplacer Writing Skills (02)	62**	Report as Other Institutional Placement	n/a	n/a
Asset Writing Skills(06)	41***	Report as Other Institutional Placement	n/a	n/a
COMPASS Writing Skills (13)	70***	74****	74	74

Appendix B: College Readiness

COMPASS E-Write (8-point) (26)		6****	6	6
COMPASS E-Write (12-point) (27)		9****	9	9
TOEFL report in English/Writing (20)		Report as Other Institutional Placement	n/a	n/a
COMPASS ESL (Grammar/usage) (28)		Report as Other Institutional Placement	n/a	n/a
KYOTE Writing		6****	6	6
GED Reasoning through Language Arts			165	165
PARCC English Language Arts/Literacy			Level 4 or higher	Level 4 or higher
Smarter Balanced English/Language Arts			4	4
Reading (exam code)				
ACT Reading	18	20	20	20
SAT Critical Reading* OR	450	470	470	470
SAT Evidenced-Based Reading & Writing OR			470	470
SAT Reading Test				25
Accuplacer Reading Comprehension (01)	61**	Report as Other Institutional Placement	n/a	n/a
Asset Reading Skills (08)	42***	44****	44	44
COMPASS Reading (14)	81***	85****	85	85
TOEFL report in English/Writing (20)		Report as Other Institutional Placement	n/a	n/a
COMPASS ESL Reading (29)		92****	92	92
KYOTE Reading (Scaled score) (25)		20****	20	20
GED Reasoning through Language Arts			165	165
PARCC English Language Arts/Literacy			Level 4 or higher	Level 4 or higher
Smarter Balanced English/Language Arts			4	4

*SAT scores submitted in the Math/Verbal format will be categorized using the following minimum standards: Math: SAT-Math=430; English: SAT-Verbal=450; Reading SAT-Verbal=450

**From 2009-10 Operationalization document

***From KCTCS' 2004 Assessment and Placement Policy

****From KCTCS' 2010 Assessment and Placement Policy and College Readiness Indicators developed by the inter-institutional Placement and Assessment Workgroups on Mathematics and English/Language Arts and Literacy.

Appendix C: Metric Logic

Strategic Agenda Metric Logic

1.a. Diversity Enrollment

- Enrollment count in the fall semester by student level.
- Undergraduate Enrollment determined by classification in (01,02,03,04,05,13,14,19,20, 30)
- Graduate Enrollment determined by classification in (06,07,08,09,10,11,12,16,18,25,31, 32,33,34,35,36)
- Race & URM determined by race/ethnicity reported in the fall semester.

1.a. Workforce Diversity

- Tenured & Tenure Track Faculty from IPEDS
 - KCTCS: All Full Time Equivalent Instructional Staff
- Management Occupations from IPEDS
- URM determined by race/ethnicity reported to IPEDS for the year.

2.a. College Readiness of Recent High School Graduates

- First Time Student in (Y,S) and classification in (01,02,03,04) in academic year (summer, fall, spring). Unduplicated by fice and institution id. Reduced to only recent Kentucky High School graduates.
- Match with Entrance Exam file on fice and institution id.
- Underprepared calculated using the operationalization of college readiness documentation (Appendix C).

2.b. Progress of Underprepared Students (English)

- First Time Student in (Y,S) and Full/part time = F and classification in (01,02,03,04) in fall semester. Unduplicated by fice and institution id.
- Match with Entrance Exam file on fice and institution id retaining only students underprepared in English.
- Underprepared English calculated using the operationalization of college readiness documentation (Appendix C).
- Course files (Type 2 for summer, fall, spring, summer, fall) merged with Course Inventory file matched on fice, course prefix, course number to add CIP code to course file. Note: future data will be matched with Class file (Type 3) instead of Course Inventory.
- Merge Course information with student/exam data.
- Success determined by a CIP code = 23 and standard letter grade in (A,B,C,D,P).

2.c. Progress of Underprepared Students (Math)

- First Time Student in (Y,S) and Full/part time = F and classification in (01,02,03,04) in fall semester. Unduplicated by fice and institution id.
- Match with Entrance Exam file on fice and institution id retaining only students underprepared in Math.
- Underprepared Math calculated using the operationalization of college readiness documentation (Appendix C).
- Course files (Type 2 for summer, fall, spring, summer, fall) merged with Course Inventory file matched on fice, course prefix, course number to add CIP code to course file. Note: future data will be matched with Class file (Type 3) instead of Course Inventory.

Appendix C: Metric Logic

- Merge Course information with student/exam data.
- Success determined by a CIP code = 27 and standard letter grade in (A,B,C,D,P).

6.c. First Year Retention

KCTCS

- GRS in (Y,P) in the fall semester.
- Retained if enrolled in following fall semester at home institution or completed degree or credential in first academic year (summer, fall, spring or trailing summer).
- URM based upon race/ethnicity reported in Fall semester and Low Income determined as Pell recipient during first academic year (fall, spring, summer).
- Exclusions will be removed

Four Year Institutions

- GRS = Y in the fall semester and Degree Level= B.
- Retained if enrolled in following fall semester at home institution.
- URM based upon race/ethnicity reported in Fall semester and Low Income determined as Pell recipient during first academic year (fall, spring, summer).
- Exclusions will be removed

6.d. Average Credits to Degree

- **KCTCS**: Degree level = A and earned hours not in (TBD, TAD); unduplicated by institution id to retain the degree awarded with the lowest earned hours.
- **Four Year Institutions**: Degree level = B and earned hours not in (TBD, TAD); unduplicated by institution id to retain the degree awarded with the lowest earned hours.
- Average Credit Earned = sum of earned hours /unduplicated degree counts.

6.e. Progression

Four-Year Institutions – 30-60-90

- Look at all students with classification 01, 02, 03, or 04 from KY CPE Enrollment Type 1 Student Record for Fall, Spring, Summer, or subsequent Fall. Type I is submitted at the beginning of each semester and thus excludes credit hours earned in the semester submitted.
 - 01 = 0-29 hours earned
 - 02 = 30-59 hours earned (30)
 - 03 = 60-89 hours earned (60)
- 04 = 90+ hours earned (90) If the student's classification increased or received a Bachelor's degree, the student counts once at the highest classification. Enrollment does not need to be continuous for a student to be counted as progressed.

KCTCS Institutions – 15-30-45

- 15 Hours: Students reaching or surpassing 15 credit hours earned in current academic year (summer, fall, spring). Current year credit hours earned compared to previous year cumulative hours earned to determine if student passed threshold.

Appendix C: Metric Logic

- 30 Hours: Students reaching or surpassing 30 credit hours earned in current academic year (summer, fall, spring). Current year credit hours earned compared to previous year cumulative hours earned to determine if student passed threshold.
- 45 Hours: Students reaching or surpassing 45 credit hours earned in current academic year (summer, fall, spring). Current year credit hours earned compared to previous year cumulative hours earned to determine if student passed threshold.

9.b. Degrees by level (disaggregated by STEM+H, Low Income & URM)

- Count all baccalaureate and graduate/professional degrees (does not include undergraduate or graduate certificates) for Four-year institutions and degrees and credentials for KCTCS conferred reported for the current academic year.
- STEM+H determined by STEM+H list for the same academic year. Four Year Institutions: only applies to Bachelor's degrees awarded. KCTCS: applies to all degrees and credentials awarded.
- URM determined by race/ethnicity reported on Degree File: Four Year Institutions: only applies to Bachelor's degrees awarded. KCTCS: applies to all degrees and credentials awarded.
- Low Income: Four Year Institutions: only applies to Bachelor's degrees awarded, low income defined as receiving a Pell grant at any time at the graduating institution. KCTCS: applies to all degrees and credentials awarded, low income defined as receiving a Pell grant at any time at any KCTCS institution.
- Underprepared (KCTCS Only): Students earning a credential who tested into developmental English, math, or reading at any period of enrollment since 2010-11. Underprepared calculated using the operationalization of college readiness documentation (Appendix C).
- Targeted Industry (KCTCS Only): Credentials awarded in CIPs that crosswalk to occupations with education/training requirements of an associate or less in targeted industry sectors (Healthcare; Manufacturing; Transportation; Distribution & Logistics; Information Technology, Business, and Finance; and Construction) during the prior academic year. For further detail including Classification of Instructional Programs (CIPs) and levels, see Appendix E.
- High-Wage, High Demand (KCTCS Only): Number of credentials (with the required credential level) tied to occupations that are high-wage, high-demand. High wage is defined as a median annual wage that is greater than or equal to the wage at the 75th percentile for all occupations in the state of Kentucky; high demand is defined as growth greater than or equal to the projected percent change for all Kentucky occupations or 100+ average annual job openings. These programs are updated annually based on the Kentucky Office of Employment and Training's (OET) Kentucky Occupational Outlooks and annual Occupational Employment Statistics (OES) wage data. For further detail including Classification of Instructional Programs (CIPs) and levels, see Appendix E.

Appendix D: KCTCS CIP Codes

Targeted Industry Sectors - Healthcare CIP Codes

CIP Code	CIP Title	Degree Level
010507	Equestrian/Equine Studies	All KCTCS Credentials
150401	Biomedical Technology/Technician	All KCTCS Credentials
309999	Multi-/Interdisciplinary Studies, Other	All KCTCS Credentials
430203	Fire Science/Fire-fighting	All KCTCS Credentials
440000	Human Services, General	All KCTCS Credentials
440701	Social Work	All KCTCS Credentials
510000	Health Services/Allied Health/Health Sciences, General	All KCTCS Credentials
510602	Dental Hygiene/Hygienist	All KCTCS Credentials
510703	Health Unit Coordinator/Ward Clerk	All KCTCS Credentials
510707	Health Information/Medical Records Technology/Technician	All KCTCS Credentials
510716	Medical Administrative/Executive Assistant and Medical Secretary	All KCTCS Credentials
510801	Medical/Clinical Assistant	All KCTCS Credentials
510803	Occupational Therapist Assistant	Associate Degrees
510805	Pharmacy Technician/Assistant	All KCTCS Credentials
510806	Physical Therapy Technician/Assistant	Associate Degrees
510808	Veterinary/Animal Health Technology/Technician and Veterinary Assistant	All KCTCS Credentials
510899	Allied Health and Medical Assisting Services, Other	All KCTCS Credentials
510904	Emergency Medical Technology/Technician (EMT Paramedic)	All KCTCS Credentials
510905	Nuclear Medical Technology/Technologist	Associate Degrees
510907	Medical Radiologic Technology/Science - Radiation Therapist	All KCTCS Credentials
510908	Respiratory Care Therapy/Therapist	All KCTCS Credentials
510909	Surgical Technology/Technologist	All KCTCS Credentials
510910	Diagnostic Medical Sonography/Sonographer and Ultrasound Technician	Associate Degrees
510911	Radiologic Technology/Science - Radiographer	All KCTCS Credentials
510915	Cardiopulmonary Technology/Technologist	Associate Degrees
510999	Allied Health Diagnostic, Intervention, and Treatment Professions, Other	All KCTCS Credentials
511004	Clinical/Medical Laboratory Technician	All KCTCS Credentials
512205	Health/Medical Physics	Associate Degrees
513801	Registered Nursing/Registered Nurse	Associate Degrees
513901	Licensed Practical/Vocational Nurse Training	All KCTCS Credentials
513902	Nursing Assistant/Aide and Patient Care Assistant/Aide	All KCTCS Credentials
513999	Practical Nursing, Vocational Nursing and Nursing Assistants, Other	All KCTCS Credentials
520201	Business Administration and Management, General	All KCTCS Credentials
520402	Executive Assistant/Executive Secretary	All KCTCS Credentials

Targeted Industry Sectors - Construction CIP Codes

CIP Code	CIP Title	Degree Level
150399	Electrical and Electronic Engineering Technologies/Technicians, Other	Associate Degrees
150499	Electromechanical and Instrumentation and Maintenance	All KCTCS Credentials
150503	Energy Management and Systems Technology/Technician	All KCTCS Credentials
150901	Mining Technology/Technician	All KCTCS Credentials
151301	Drafting and Design Technology/Technician, General	Associate Degrees
301201	Historic Preservation and Conservation	All KCTCS Credentials
309999	Multi-/Interdisciplinary Studies, Other	All KCTCS Credentials
410301	Chemical Technology/Technician	All KCTCS Credentials
460101	Mason/Masonry	All KCTCS Credentials
460201	Carpentry/Carpenter	All KCTCS Credentials
460302	Electrician	All KCTCS Credentials
460503	Plumbing Technology/Plumber	All KCTCS Credentials
470105	Industrial Electronics Technology/Technician	All KCTCS Credentials
470201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	All KCTCS Credentials
480508	Welding Technology/Welder	All KCTCS Credentials
490202	Construction/Heavy Equipment/Earthmoving Equipment Operation	All KCTCS Credentials

Appendix D: KCTCS CIP Codes

Targeted Industry Sectors - Manufacturing CIP Codes

CIP Code	CIP Title	Degree Level
144201	Mechatronics, Robotics, and Automation Engineering	All KCTCS Credentials
150399	Electrical and Electronic Engineering Technologies/Technicians, Other	All KCTCS Credentials
150401	Biomedical Technology/Technician	Associate Degrees
150403	Electromechanical Technology/Electromechanical Engineering Technology	All KCTCS Credentials
150499	Electromechanical and Instrumentation and Maintenance	All KCTCS Credentials
150503	Energy Management and Systems Technology/Technician	All KCTCS Credentials
150607	Plastics and Polymer Engineering Technology/Technician	All KCTCS Credentials
150613	Manufacturing Engineering Technology/Technician	All KCTCS Credentials
150701	Occupational Safety and Health Technology/Technician	Associate Degrees
150702	Quality Control Technology/Technician	All KCTCS Credentials
150901	Mining Technology/Technician	All KCTCS Credentials
150903	Petroleum Technology/Technician	All KCTCS Credentials
151301	Drafting and Design Technology/Technician, General	Associate Degrees
309999	Multi-/Interdisciplinary Studies, Other	All KCTCS Credentials
410301	Chemical Technology/Technician	All KCTCS Credentials
430112	Securities Services Administration/Management	All KCTCS Credentials
460401	Building/Property Maintenance	All KCTCS Credentials
470105	Industrial Electronics Technology/Technician	All KCTCS Credentials
470106	Appliance Installation and Repair Technology/Technician	All KCTCS Credentials
470201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	All KCTCS Credentials
470303	Industrial Mechanics and Maintenance Technology	Associate Degrees
470603	Autobody/Collision and Repair Technology/Technician	All KCTCS Credentials
470606	Small Engine Mechanics and Repair Technology/Technician	All KCTCS Credentials
470608	Aircraft Powerplant Technology/Technician	All KCTCS Credentials
480503	Machine Shop Technology/Assistant	All KCTCS Credentials
480508	Welding Technology/Welder	All KCTCS Credentials
480703	Cabinetmaking and Millwork	All KCTCS Credentials
500201	Crafts/Craft Design, Folk Art and Artisanry	All KCTCS Credentials
500711	Ceramic Arts and Ceramics	All KCTCS Credentials
512205	Health/Medical Physics	Associate Degrees
520201	Business Administration and Management, General	All KCTCS Credentials
520203	Logistics, Materials, and Supply Chain Management	Associate Degrees
520205	Operations Management and Supervision	All KCTCS Credentials

Targeted Industry Sectors - Transportation, Distribution, and Logistics CIP Codes

CIP Code	CIP Title	Degree Level
150901	Mining Technology/Technician	All KCTCS Credentials
309999	Multi-/Interdisciplinary Studies, Other	All KCTCS Credentials
470603	Autobody/Collision and Repair Technology/Technician	All KCTCS Credentials
470604	Automobile/Automotive Mechanics Technology/Technician	All KCTCS Credentials
470605	Diesel Mechanics Technology/Technician	All KCTCS Credentials
470606	Small Engine Mechanics and Repair Technology/Technician	All KCTCS Credentials
470608	Aircraft Powerplant Technology/Technician	All KCTCS Credentials
470611	Motorcycle Maintenance and Repair Technology/Technician	All KCTCS Credentials
490205	Truck and Bus Driver/Commercial Vehicle Operator and Instructor	All KCTCS Credentials
490399	Marine Transportation, Other	All KCTCS Credentials
520201	Business Administration and Management, General	All KCTCS Credentials

Appendix D: KCTCS CIP Codes

Targeted Industry Sectors - Information Technology, Business, and Finance CIP Codes

CIP Code	CIP Title	Degree Level
010301	Agricultural Production Operations, General	Associate Degrees
010507	Equestrian/Equine Studies	All KCTCS Credentials
090702	Digital Communication and Media/Multimedia	Associate Degrees
100105	Communications Technology/Technician	Associate Degrees
100304	Animation, Interactive Technology, Video Graphics and Special Effects	Associate Degrees
110101	Computer and Information Sciences, General	All KCTCS Credentials
110301	Data Processing and Data Processing Technology/Technician	All KCTCS Credentials
110801	Web Page, Digital/Multimedia and Information Resources Design	Associate Degrees
119999	Computer and Information Sciences and Support Services, Other	Associate Degrees
144201	Mechatronics, Robotics, and Automation Engineering	Associate Degrees
150201	Civil Engineering Technology/Technician	Associate Degrees
150399	Electrical and Electronic Engineering Technologies/Technicians, Other	All KCTCS Credentials
150403	Electromechanical Technology/Electromechanical Engineering Technology	All KCTCS Credentials
150499	Electromechanical and Instrumentation and Maintenance	Associate Degrees
150503	Energy Management and Systems Technology/Technician	Associate Degrees
150507	Environmental Engineering Technology/Environmental Technology	Associate Degrees
150613	Manufacturing Engineering Technology/Technician	Associate Degrees
150702	Quality Control Technology/Technician	Associate Degrees
150901	Mining Technology/Technician	All KCTCS Credentials
151102	Surveying Technology/Surveying	All KCTCS Credentials
151301	Drafting and Design Technology/Technician, General	Associate Degrees
151303	Architectural Drafting and Architectural CAD/CADD	Associate Degrees
220302	Legal Assistant/Paralegal	All KCTCS Credentials
260701	Zoology/Animal Biology	All KCTCS Credentials
309999	Multi-/Interdisciplinary Studies, Other	All KCTCS Credentials
410301	Chemical Technology/Technician	Associate Degrees
460201	Carpentry/Carpenter	All KCTCS Credentials
470105	Industrial Electronics Technology/Technician	Associate Degrees
470303	Industrial Mechanics and Maintenance Technology	Associate Degrees
480503	Machine Shop Technology/Assistant	All KCTCS Credentials
500406	Commercial Photography	All KCTCS Credentials
500409	Graphic Design	All KCTCS Credentials
510808	Veterinary/Animal Health Technology/Technician and Veterinary Assistant	All KCTCS Credentials
512205	Health/Medical Physics	Associate Degrees
520201	Business Administration and Management, General	All KCTCS Credentials
520203	Logistics, Materials, and Supply Chain Management	Associate Degrees
520301	Accounting	All KCTCS Credentials
520302	Accounting Technology/Technician and Bookkeeping	All KCTCS Credentials
520402	Executive Assistant/Executive Secretary	All KCTCS Credentials
520803	Banking and Financial Support Services	All KCTCS Credentials
521201	Management Information Systems, General	All KCTCS Credentials
521701	Insurance	All KCTCS Credentials

Appendix D: KCTCS CIP Codes

2016-17 High Wage/High Demand Credentials' CIP Codes

CIP Code	CIP Title	Degree Level
010301	Agricultural Production Operations, General	All KCTCS Credentials
151301	Drafting and Design Technology/Technician, General	Associate Degrees
220302	Legal Assistant/Paralegal	All KCTCS Credentials
460101	Mason/Masonry	All KCTCS Credentials
460201	Carpentry/Carpenter	All KCTCS Credentials
460302	Electrician	All KCTCS Credentials
460503	Plumbing Technology/Plumber	All KCTCS Credentials
470303	Industrial Mechanics and Maintenance Technology	All KCTCS Credentials
490399	Marine Transportation, Other	All KCTCS Credentials
500201	Crafts/Craft Design, Folk Art and Artisanry	All KCTCS Credentials
500409	Graphic Design	All KCTCS Credentials
500702	Fine/Studio Arts, General	All KCTCS Credentials
510602	Dental Hygiene/Hygienist	Associate Degrees
510803	Occupational Therapist Assistant	Associate Degrees
510806	Physical Therapy Technician/Assistant	Associate Degrees
510907	Medical Radiologic Technology/Science - Radiation Therapist	Associate Degrees
510910	Diagnostic Medical Sonography/Sonographer and Ultrasound Technician	Associate Degrees
510911	Radiologic Technology/Science - Radiographer	Associate Degrees
510999	Allied Health Diagnostic, Intervention, and Treatment Professions, Other	Associate Degrees
513801	Registered Nursing/Registered Nurse	Associate Degrees
520101	Business/Commerce, General	All KCTCS Credentials
520201	Business Administration and Management, General	All KCTCS Credentials
520203	Logistics, Materials, and Supply Chain Management	All KCTCS Credentials