

Metrics and Dashboard

Technical Guide

Stronger by Degrees
2011-15 Strategic Agenda

Version 1.4

May 22, 2013

Table of Contents

Dashboard Overview	1
Targets and Trend Icons	2
College Readiness	
Readiness of Kentucky high school graduates who enter college.....	3
Readiness of all Kentucky public high school graduates.....	5
College-going rate of high school graduates.....	6
GED® Graduates.....	7
New teacher excellence.....	8
Student Success	
Degrees and credentials conferred.....	9
Transfer from KCTCS to four-year colleges and universities.....	11
Graduation rates (bachelor's and associate).....	12
Graduation rate gaps of low-income, underprepared, and underrepresented minority students.....	14
State appropriations for public higher education.....	16
Qualified students not receiving low-income grants.....	17
Net direct cost for low-income students.....	19
Research, Economic, and Community Development	
Externally-funded research and development.....	20
Science, technology, engineering, mathematics, and health (STEM+H) degrees.....	22
Educational attainment of young adults.....	24
Efficiency and Innovation	
Online learning.....	26
Degree productivity relative to education and related expenditures.....	28
Credits attempted by degree graduates.....	30
Terms and Acronyms	31
Metrics Index	33
Appendix A: Regional Assignment of Kentucky Counties	35
Appendix B: STEM+H Fields	37

How to Use this Technical Guide

This technical guide is organized by focus area and performance metric as listed above, listing all metrics in a focus area together regardless of the metric level (state, institutional, regional). A definition, data source, and all details of how the metric was calculated (operationalization) are provided for all metrics.

Comments or Questions? Send an e-mail to cpedashboard@ky.gov

Dashboard Overview

<http://dataportal.cpe.ky.gov/dashboard.shtm>

The *Stronger by Degrees* dashboard contains historical and comparative information about Kentucky's colleges, universities, and adult basic education providers. Designed to illustrate progress toward the goals and objectives of the council's 2011-15 strategic agenda, it is organized around the four focus areas and nine policy objectives set out in *Stronger by Degrees*, which are:

College Readiness

1. Increase the number of college-ready Kentuckians entering postsecondary education.
2. Increase the number of college-ready GED graduates.
3. Increase the effectiveness of Kentucky's K-12 teachers and school leaders.

Student Success

4. Increase high quality degree production and completion rates at all levels and close achievement gaps, particularly for lower-income, underprepared, and underrepresented minority students.
5. Decrease financial barriers to college access and completion.

Research, Economic and Community Development

6. Increase basic, applied, and translational research to create new knowledge and economic growth.
7. Increase educational attainment and quality of life in Kentucky communities through regional stewardship, public service, and community outreach.

Efficiency and Innovation

8. Increase academic productivity through program innovations.
9. Maximize the use of postsecondary and adult education resources.

Each performance metric is coupled with two contextual metrics and a leading indicator (where available), which provide information against which the performance metrics may be analyzed. Definitions for these metrics can be found in this document as well, listed under the performance metric to which it relates.

The navigation buttons on the left side of the screen link to the other levels of CPE's accountability system, which track performance and contextual metrics at the institutional and regional levels. Each of these levels has a focus area overview page like the state level.

Another item on the left navigation bar is a link to CPE's performance scorecards. These documents detail the baseline, updated and target information for a given college or university, or for Kentucky as a whole. These printer-friendly PDF documents provide a quick status overview, and will include the most recent year's data and a progress icon. In the future, regional scorecards will also be developed for inclusion in the dashboard.

Implementation strategies and progress updates can be found on the left navigation bar and by clicking on the "Strategies" button associated with a policy objective. These pages link to PDF documents that provide a list of the strategies planned to accomplish each of the nine policy objectives, along with the progress update on each objective. These updates are developed for the annual meeting on each focus area, and will be revised annually.

Targets and Trend Icons

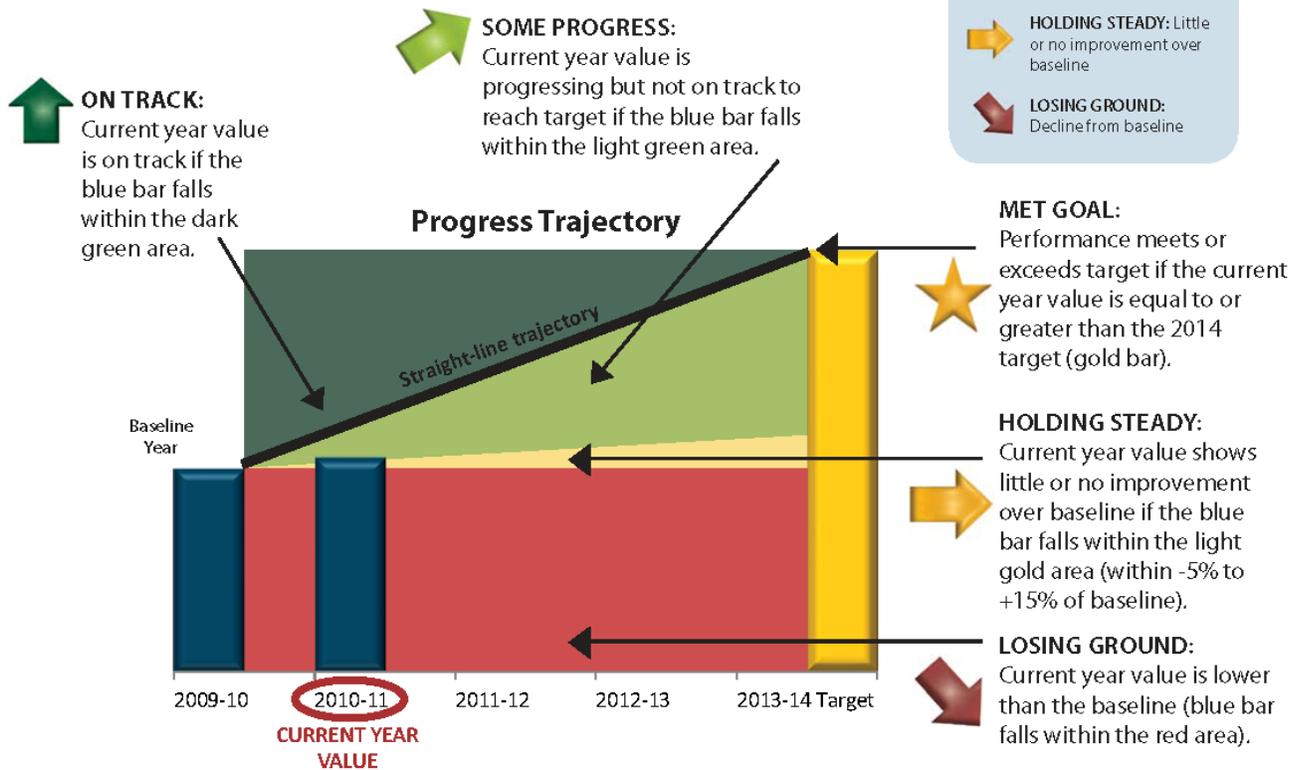
Stronger by Degrees takes a new approach to displaying progress on key performance metrics. To increase postsecondary education’s focus on long-range outcomes, 2014 targets were negotiated with Kentucky’s public universities and KCTCS, instead of annual targets as in years past. Progress is shown from the baseline year (either 2008-09 or 2009-10, depending on the metric) to the 2014 target; annual updates will be added as they become available.

The trend icons (the various arrows and the star) reflect the current year’s progress in relation to the 2014 target. More technically, the trend icon is assigned based on the current year value as it relates to a straight-line trajectory drawn from the baseline year to the 2014 target. The blue bar corresponding to the current year value must be at or above the straight-line trajectory to be considered “on track” to meet the target. Of course, change rarely happens in a straight line. This visualization merely provides a means of quickly understanding progress toward reaching 2014 targets.

Each page includes a legend that briefly describes and highlights the trend icon assigned to that metric. In the example below, the trend icon is “some progress,” because the blue bar that corresponds to the current year value falls within the light green area.

LEGEND:

Legend	
	MET GOAL: Performance meets or exceeds target
	ON TRACK: On track to meet target by 2014
	SOME PROGRESS: Progressing but not on track to meet target
	HOLDING STEADY: Little or no improvement over baseline
	LOSING GROUND: Decline from baseline



College Readiness

Performance Metric:

College readiness of college entrants

Policy Objective 1: Increase the number of college-ready Kentuckians entering postsecondary education.

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. Students must score an 18 or higher on the English, mathematics and reading ACT subject exam to be college-ready in a subject. For the entering class of 2010 and subsequent classes, the benchmark score for mathematics will rise to 19 and reading will rise to 20.

Level(s): Statewide and regional

Data Source: CPE Comprehensive Database, 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. Includes graduates of private high schools in Kentucky. Data are not available for students entering some AIKCU independent institutions.

Drilldown:

College readiness by sector: Sector describes a college or university by its public or independent control, and program level (two- or four-year). Colleges within the Kentucky Community and Technical College System constitute one sector; the remaining 4-year universities constitute the other. Data are not consistently reported for students entering non-public institutions and these sectors are not displayed.

Subject: Percent of students entering college-ready in each subject alone: mathematics, English and reading.

Leading Indicator:

College readiness of all public high school graduates: Percent of recent graduates of Kentucky public high schools who met statewide standards for readiness in English, mathematics, and reading.

Data source: Kentucky Department of Education (KDE), *High School Graduates College/Career Readiness Percentage*, <http://www.openhouse.education.ky.gov/HighSchoolGraduates.aspx>

Operationalization: Contact KDE for further details.

College Readiness

College readiness of college entrants, continued...

Contextual Metrics:

College-ready high school graduates by subject: The percent of high school graduates who scored at or above Kentucky's statewide standards for college readiness in English (18), mathematics (19), and reading (20), compared to all states in which 90% or more of all high school students take the ACT.

Data source: ACT., Inc., annual state-level reports

Operationalization: Kentucky's 2010 statewide standards for college readiness are used for the 2009 graduating class as well for comparability. States in which 90% or more of students take the ACT include Arkansas, Colorado, Illinois, Louisiana, Michigan, Mississippi, North Dakota, Tennessee and Wyoming. Graduates from these states made up 13% of all high school graduates in the nation in 2009 (NCES).

Success in college courses: Percent of entering students who successfully completed a credit-bearing math or English course during their first year.

Data source: CPE Comprehensive Database, KPEDS

Operationalization: Denominator: all undergraduate degree and credential-seeking students starting in the fall. Numerator: the number who successfully completed at least one non-developmental course during the fall and spring semesters in English (CIP = 23) or mathematics (CIP = 27). Successful course completion is defined as having a CPE standardized grade of A, B, C or P.

College Readiness

Performance Metric:

Readiness of all high school graduates in the region

Policy Objective 1: Increase the number of college-ready Kentuckians entering postsecondary education.

Definition: Percent of recent Kentucky public high school graduates in the region who met statewide standards for readiness in English, mathematics, and reading.

Level: Regional (Regional targets will be developed in conjunction with regional leaders and community members)

Data source: Kentucky Department of Education (KDE), *High School Graduates College/Career Readiness Percentage*, <http://www.openhouse.education.ky.gov/HighSchoolGraduates.aspx>

Operationalization: Percent of previous-year graduates of public high schools in the region who met statewide college readiness standards as of their time of graduation from high school. Statewide college readiness standards incorporate ACT exams as well as college placement exams taken at any time prior to graduation from high school. Benchmark ACT scores are 19 or higher on the mathematics exam, 18 on the English exam, and 20 on the reading exam.

Leading Indicator and Contextual Metrics: TBD as institutional dashboards are developed.

College Readiness

Performance Metric:

College-going rate of high school graduates in the region

Policy Objective 1: Increase the number of college-ready Kentuckians entering postsecondary education.

Definition: The percent of recent graduates of regional high schools who enter any public, private or proprietary college or university in Kentucky the following fall, whether as a degree-or-credential-seeking student or non-degree.

Level: Regional (Regional targets will be developed in conjunction with regional leaders and community members)

Data Source: KHEAA Kentucky Educational Excellence Scholarship (KEES) database; National Student Clearinghouse Student Tracker; CPE Comprehensive Database (KPEDS)

Operationalization: Student-level records used in determining eligibility for the Kentucky Educational Excellence Scholarship (KEES) are used in determining the number of high school graduates at public and non-public high schools in Kentucky. Seniors are tracked at an individual level to ascertain college enrollment in the fall of the next academic year (including summer entrants returning in the fall). KEES recipients are verified through financial aid records and include students enrolled in any Kentucky college or university and Academic Common Market college for at least six credit hours. The list of high school seniors not matched to KEES records are then sent to NSC Student Tracker for enrollment verification. Student Tracker identifies KEES non-recipients entering college in participating institutions nationwide, which excludes only 8 percent of national student enrollment. Kentucky institutions not participating in NSC are Alice Lloyd College, Berea College, Brescia University, Kentucky Christian University and MidContinent University.

Leading Indicator and Contextual Metrics: TBD as institutional dashboards are developed.

College Readiness

Performance Metric: GED® Graduates

Policy Objective 2. Increase the number of college-ready GED graduates.

Definition: Annual number of GED® graduates in Kentucky.

Level(s): Statewide

Data Source: KYAE Adult Education Reporting Information Network (AERIN) and NRSpro

Operationalization: Annual GED® graduates are tracked from July 1 to June 30, and include all those who completed and passed all five subject batteries with a standard score total of 2,250 (average of 450 per test) and a passing score of 410 on each of the subject batteries. Students must not have already earned the GED or a high school credential before and must be Kentucky residents age 16 or older. The last subject battery passed must be within the current fiscal year.

Contextual Metrics:

Closing the adult basic education gap: GED® graduates per 1,000 adults without diplomas. Number of adults receiving the GED® credential, compared to the number of adults ages 18-64 in need of the GED® credential.

Data source: CPE/KYAE, AERIN; ACE/GEDTS; US Census

Operationalization: US census data includes the 2000 Census, 2005 1-yr ACS, 2009 1-yr ACS. Number of United States GED® earners from ACE/GEDTS' annual GED Testing Program Statistical Report.

GED® pass rate: Proportion of test-takers who passed the GED® exam during the fiscal year.

Data source: CPE/KYAE, Adult Education Reporting and Information Network (AERIN)

Operationalization: Numerator: The number of GED® graduates between July 1 and June 30 who completed and passed all five subject batteries with a standard score total of 2,250 (average of 450 per test) and a passing score of 410 on each of the subject batteries. Denominator: The number of students who attempted the GED® between July 1 and June 30.

GED® graduates transitioning to college: The percent of Kentucky's GED® graduates who enrolled in a Kentucky postsecondary institution within two academic years of receiving their credential.

Data source: CPE/KYAE, AERIN and KPEDS

Operationalization: All GED® graduates in one fiscal year (July 1 – June 30) are matched against CPE's enrollment records to determine enrollment of any kind within the next two academic years.

College Readiness

Performance Metric:

New teacher excellence (top 15% nationally)

Policy Objective 3. Increase the effectiveness of Kentucky's K-12 teachers and school leaders.

Definition: Percent of teaching program graduates scoring in the top 15 percent nationally on Praxis II (PLT) licensure exams.

Level(s): Statewide, Institutional (with AIKCU)

Data Source: Education Professional Standards Board from ETS Score Reports

Operationalization: The denominator is the number of total program completers who take a Praxis II Principles of Learning and Teaching exam at the elementary, middle or high school level within the academic year in question. The numerator is the number of test takers scoring at or above the cut-off scores on any of these three exams that were established by ETS as placing students in the top 15% nationally: 185 on the grades K-6 exam, 184 on the grades 5-9 exam, and 184 on the grades 7-12 exam. If a student has taken the exam more than once during the academic year, the highest score is use for the calculation. If a student takes more than one of the three grade-level exams and scores above the cut-off in one or more of the exams, they are categorized as having scored above the cut-off.

Note: The intention of the Council is to ultimately replace this metric with a teacher preparation program measure based on K-12 student performance.

Leading Indicator: TBD

Contextual Metric:

Licensure exam pass rate: Percent of students passing the PRAXIS II Assessment in Principles of Learning and Teaching.

Data source: Education Professional Standards Board (EPSB), from College Board reports.

Operationalization: State-wide pass rates calculated as the total number of test-takers passing the elementary, middle, and high school-level Principles of Learning and Teaching tests divided by the total number of test-takers.

Student Success

Performance Metric:

Degrees and credentials conferred

Policy Objective 4. Increase high quality degree production and completion rates at all levels and close achievement gaps, particularly for lower-income, underprepared, and underrepresented minority students.

Definition: Total number of diplomas, certificates, and degrees awarded at all levels during an academic year (1 July through 30 June).

Level(s): Statewide, Institutional (with AIKCU)

Data Source: CPE Comprehensive Database (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. [Data Notes: KPEDS is missing data on degrees and other credentials awarded by Alice Lloyd College for the academic years 1998-2003, by Mid-Continent College for the academic years 1998-2003, by Spalding University for academic year 2001, by Sullivan University for academic years 2001-2004, and by Union College for academic years 1998-1999. Data on credentials awarded by Kentucky public technical colleges are unavailable prior to academic year 2001. During the period from academic year 1998 through academic year 2000, Kentucky public community colleges awarded no credentials below the associate degree.]

Drilldowns: By student level based on classification (e.g., freshman, sophomore) as reported by the institutions on their Type 1 Enrollment file. Undergraduate (classifications 1, 2, 3, 4, 5, 13, 14, 15, 19, 20, 30, 31) and Graduate (6, 7, 8, 9, 10, 11, 12, 16, 18, 25, 32)

Leading Indicator:

Undergraduate Students On-Track to Graduate: Proportion of full-time GRS cohort “on-track to graduate” in 100% of program time. For Bachelor’s degree-seekers and undeclared students, the proportion of the GRS entry cohort who earned 60 credit hours by the end of their second year of enrollment. For Associate degree-seekers, the proportion of the GRS entry cohort who earned 30 credit hours by the end of their first year of enrollment.

Data source: CPE Comprehensive Database (KPEDS)

Operationalization: For students meeting the cohort requirement each fall, hours were counted beginning the previous summer. At the state level, hours earned include hours earned at any institution during the time period. Credits earned are defined using CPE’s standardized grades crosswalk. At the institutional level, associate degree rates are only displayed for universities with more than 10 associate entrants in a given cohort.

Student Success

Degrees and credentials conferred, continued...

Contextual Metrics:

Enrollment by Degree Sought: Fall semester headcount enrollment by type of degree sought.

Data source: CPE Comprehensive Database (KPEDS)

Operationalization: Drill-downs are as follows. Bachelor's degree-seeking: first major prefix = Bachelor's or undeclared (at four-year institution); Associate degree-seeking: first major prefix = Associate; graduate degree-seeking: first major prefix = masters, specialist, first-professional or doctoral.

Completion Ratio: Annual ratio of undergraduate degrees and certificates (of at least one year in expected length) awarded per 100 full-time equivalent (FTE) undergraduate students. From National Governor's Association's (NGA) Complete2Compete to initiative.

Data Source: CPE Comprehensive Database (KPEDS)

Operationalization: Standard CPE FTE calculation. Numerator: Number of undergraduate degrees and certificates (of at least one year in program length) awarded in a specified year. Denominator: Number of full-time equivalent (FTE) undergraduate students in the same year.

Drilldown: Associate degree-seeking: first major prefix = Associate; graduate degree-seeking: first major prefix = masters, specialist, first-professional or doctoral.

Student Success

Performance Metric:

Transfer from KCTCS to four-year colleges and universities

Policy Objective 4. Increase high quality degree production and completion rates at all levels and close achievement gaps, particularly for lower-income, underprepared, and underrepresented minority students.

Definition: Number of students transferring credit from KCTCS to four-year public and independent institutions in Kentucky within the academic year, including students transferring from KCTCS and “native” students at four-year institutions transferring in credit earned at KCTCS as a visiting or non-degree student.

Level(s): Institutional

Data Source: CPE KPEDS

Operationalization: Metric based on new definition of transfer developed in 2009, and uses data first collected in 2008-09. Prior year data is not available.

Students transferring from KCTCS: First-time transfers from KCTCS colleges during the summer, fall and spring semesters of the academic year, as reported by the receiving institution, deduplicated within receiving institution. First-time transfer information is available from public institutions for all three semesters of the academic year, and from AIKCU independent institutions for the fall and spring semesters. Students are categorized as first-time transfer students based on their status on one of an institution's Type 1 Enrollment file submission.

Four-year students transferring in KCTCS credit: Annual number of students at any public, independent or proprietary in-state four-year institution who transferred in KCTCS credit as a visiting, dual credit, or workforce student while at KCTCS. Calculated as the sum of all students on the annual transfer file who transferred credit from a KCTCS institution to a four-year public or independent institution as a non-first-time transfer student (as categorized on the Type 1 enrollment record) with terms reported on the transfer file that are within the summer-spring academic year, deduplicated across the academic year within each receiving institution. Some independent institutions are not included because they did not submit the data required for this report.

Leading Indicator and Contextual Metrics: TBD as institutional dashboards are developed.

Student Success

Performance Metric:

Graduation rates (Bachelor's and Associate)

Policy Objective 4. Increase high quality degree production and completion rates at all levels and close achievement gaps, particularly for lower-income, underprepared, and underrepresented minority students.

Definition: Six-year graduation rate of bachelor's degree seekers and three-year graduation rate of associate degree seekers.

Level(s): State, Institutional (with AIKCU)

Data Source: CPE Comprehensive Database (KPEDS)

Operationalization:

Bachelor's degree graduation rate: First-time, full-time, Bachelor's-seeking students entering in the fall semester (or entering in the summer and returning in the fall), who graduate with a Bachelor's degree within four, five or six years from their institution of entry. Students included in the IPEDS GRS cohort are identified in data submitted to CPE at their time of entry. At the end of the six years, members of the cohort are matched against degree completions to determine which students graduated within 4, 5, and 6 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.

Associate degree graduation rate: First-time, full-time, Associate-seeking students entering in the fall semester (or entering in the summer and returning in the fall), who graduate with an Associate degree within two or three years from their institution of entry. Students included in the IPEDS GRS cohort are identified in data submitted to CPE at their time of entry. At the end of the three years, members of the cohort are matched against degree 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.

Leading Indicator:

Students graduating in minimum time to degree: Four and-five graduation rate of bachelor's degree seekers and three-year graduation rate of associate degree seekers.

Data source: CPE Comprehensive Database (KPEDS)

Operationalization: Native institution graduation rates for full-time GRS cohort at 100% and 125% of minimum time to degree (only 100% of minimum time to degree for associates-seekers). At the institutional level, associate degree rates are only displayed for universities with more than 10 associate entrants in a given cohort.

Student Success

Graduation rates, continued...

Contextual Metrics:

Retention: percentage of the full-time, first-time entry cohort who were enrolled at the same institution the following fall semester (first year), or two years after entry (second year).

Data source: CPE Comprehensive Database (KPEDS)

Operationalization: First time students are identified by the institutions on their Type 1 Enrollment (GRS cohort). Degree sought is determined by first major prefix of bachelor's or undeclared at a four-year institution for Bachelor's retention rate and Associate for Associate rate. Full-time status is determined by the number of credit hours in which a student enrolled during their first fall semester.

Drilldowns: Bachelor and Associate degree seeking (as defined above)

Graduation rates of part-time entrants and transfer students (not yet loaded into dashboard): Graduation rates of part-time entrants within 150% and 200% of minimum time to degree. Graduation rates of first-time transfer students in 100% and 150% of minimum time to degree.

Data source: CPE Comprehensive Database (KPEDS)

Operationalization: For further details see Complete to Compete Technical Guide here: [X:\Planning and Performance\2011-15 Strategic Agenda\Dashboard\Metrics Technical Guide Final 10-05-2010 \(1\).docx](#)

Student Success

Performance Metric:

Graduation rate gaps of low-income, underprepared, and underrepresented minority students

Policy Objective 4. Increase high quality degree production and completion rates at all levels and close achievement gaps, particularly for lower-income, underprepared, and underrepresented minority students.

Definition: Gap between graduation rate of students in the target group compared to students who are not in the target group, using the IPEDS graduation rate metric at 150% of minimum time to degree.

Level(s): State and Institutional

Data Sources: CPE Comprehensive Database (KPEDS), KHEAA ISIR (FAFSA) records for Pell eligibility.

Common Operationalization: Cohort-based graduation rate including all first-time, full-time, degree-seeking students entering in the fall semester (or entering in the summer and returning in the fall), who graduated with that degree from their institution of entry within 150% of the minimum time to degree. The Bachelor's degree graduation rate is based on the entering cohort six years previous, and the Associate rate on the entering cohort three years previous. Students included in the IPEDS GRS cohort are identified in data submitted to CPE at their time of entry. At the end of the time period in question, members of the cohort are matched against degree completions to determine which students graduated within the timeframe. Students meeting federal standards for exclusion from the entering cohort are removed from the cohort in consultation with institutional staff.

Low Income Graduation Rate Gap: The difference between the graduation rate of low-income students and that of moderate to high-income students.

Operationalization: Low income category includes undergraduate students who received a federal Pell grant at their time of entry into the institution. Other category includes all students who did not receive a Pell grant, including those who did not apply for a Pell grant. For entering cohorts prior to 2005, UK and KCTCS gaps and rates reflect entering students with a Pell-eligible expected family contribution (EFC) as reported to KHEAA. Historical data will be added in coming months. Data needed to calculate this metric is not consistently submitted by AIKCU institutions, so no sector numbers are reported.

Underprepared Students' Graduation Rate Gap: The difference between the graduation rate of students who entered college underprepared (not meeting statewide college readiness standards) and those who were prepared.

Operationalization: Underprepared students are those who entered a degree program without meeting statewide standards for college readiness in either English, math or reading, or in two or three subject areas. Statewide college readiness standards incorporate ACT exams as well as placement exams taken upon entry into college. Benchmark ACT scores used for this metric are those established prior to 2010, and are 18 or higher on the mathematics exam, 18 on the English exam, and 18 on the reading exam. Data needed to calculate this metric is not consistently submitted by AIKCU institutions, so no sector numbers are reported.

Student Success

Graduate rate gaps, continued...

Underrepresented Minorities' Graduation Rate Gap: The difference between the graduation rate of underrepresented racial-ethnic minority students and White and Asian students.

Operationalization: Underrepresented minority students include students who categorized themselves within the following racial/ethnic categories from CPE's pre-2010 race/ethnicity categories: 1) Black, non-Hispanic, 2) American Indian or Alaskan Native, and 3) Hispanic. Non-resident aliens (international students) and students not reporting a race/ethnicity are not included in the denominator. Asians are not included in the underrepresented minority category because they enter college and succeed at higher rates than any other racial-ethnic group, and are consequently an overrepresented racial-ethnic minority.

Student Success

Performance Metric:

State appropriations for public higher education

Policy Objective 5: Decrease financial barriers to college access and completion.

Definition: Total net general fund appropriations for public postsecondary colleges and universities (inflation adjusted).

Level(s): Statewide

Data Source: Enacted Budgets of the Commonwealth and Budget Reduction

Operationalization: Amount of state general fund 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 an annual inflation factor of 3.5%. Does not include state financial aid provided to students.

Drilldowns: Total net general fund appropriations for public postsecondary colleges and universities by sector and institution. The sectors and colleges within each are the following: Research universities (University of Kentucky, University of Louisville); Comprehensive universities (Eastern, Kentucky State, Morehead, Murray, Northern, Western); and the Kentucky Community and Technical College System.

Leading Indicator TBD

Contextual Metrics:

State funding per student: Net general funds per full-time equivalent (FTE) enrollment is the total state appropriation found in the performance metric, divided by FTE enrollment.

Data source: Budget of the Commonwealth; CPE Comprehensive Database (KPEDS)

Operationalization: State funds described above. Fall semester credit hours are used to calculate Full-Time Equivalent (FTE) enrollment, which is a single value providing a meaningful combination of full-time and part-time students.

Student share of public postsecondary finance: Most revenue at public colleges and universities is in the form of state appropriations or tuition and fees from students. This metric tracks the percent of these "total public funds" that is paid by students through tuition and fees.

Data source: CPE from institutional financial statements

Operationalization: Numerator: total fiscal year tuition and fee revenue. Denominator: total public funds, which is the state appropriations plus tuition and fee revenue.

Student Success

Performance Metric:

Low-income students without grants

Policy Objective 5: Decrease financial barriers to college access and completion.

Definition: Annual number of qualified students who applied for state grants for low-income students, but who did not receive grants because program funds were exhausted (CAP and KTG).

Level(s): State

Data Source: Kentucky Higher Education Assistance Authority (KHEAA)

Operationalization: Estimated unfunded students are the product of an unduplicated count of non-awarded, program-eligible applicants likely to meet enrollment requirements for an award and the mean disbursed award amount. The unduplicated number of students denied CAP and KTG awards is determined by subtracting the number of awards from the number of eligible applicants during the fiscal year. The number of students denied awards who would be expected to have a disbursement is estimated based on the actual proportion of awards made to awards disbursed.

Leading Indicator:

Funding Source: Lottery Revenue

Definition: The total amount of state general fund revenue received from the Kentucky Lottery during the fiscal year. Funds are used to support student financial aid programs, including the CAP and KTG need-based programs and the KEES merit-based program.

Data source: Budget of the Commonwealth and Budget Reduction Orders

Contextual Metrics:

State vs. federal investment in financial aid: State need-based financial aid as a percentage of total federal Pell grants awarded to residents of the state. This metric provides a view of state need-based financial aid relative to the number of financially-needy students in the state and can be compared across states.

Data source: Measuring Up, 2000 – 2008; Federal Pell Grant annual report 2009-10; NASSGAP Annual Survey 2009-10

Operationalization: Numerator: Total amount of state need-based aid awarded to undergraduate students. Denominator: Pell grant aid by state of residence of students.

Student Success

Low-income students without grants, continued...

CAP and KTG expenditures and deficits (in millions): Expenditures: Total amount of aid disbursed during the fiscal year. Deficit: The estimated amount of additional state funds that would be disbursed during the fiscal year through the College Access Program (CAP) and Kentucky Tuition Grant (KTG) state need-based financial aid programs if all eligible students likely to accept and utilize an award had received awards (operationalized above)

Data source: Kentucky Higher Education Assistance Authority (KHEAA)

Student Success

Performance Metric:

Net direct cost for low-income students

Policy Objective 5: Decrease financial barriers to college access and completion.

Definition: The cost of tuition, fees and books after all grants and scholarships were received by full-time, low-income, Kentucky resident students. Negative amounts reflect grant and scholarship money available to pay indirect costs such as room and board.

Level(s): Institutional

Data Source: CPE Comprehensive Database (KPEDS); NCES IPEDS

Operationalization: All full-time, undergraduate, federal Pell grant recipients with Kentucky residency are identified for the academic year, and their grants and scholarships from all sources as reported on CPE's financial aid file are summed. The cost of full-time tuition, fees and books as reported by the institution to IPEDS for that academic year is then subtracted from the total grants amount for each student, and the mean is calculated.

Leading Indicator and Contextual Metrics: TBD as institutional dashboards are developed.

Research, Economic and Community Development

Performance Metric:

Externally-funded research and development

Policy Objective 6: Increase basic, applied, and translational research to create new knowledge and economic growth.

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(s): Statewide, Institutional

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. AIKCIU institutions do not receive research and development funds and are not included in this metric.

Leading Indicator:

Federal R&D Budget: Total expenditures on science and engineering research and development authorized in the U.S. federal budget, in constant 2008 dollars. Includes all science and engineering funding from all federal agencies, including the Department of Defense, the National Institutes of Health (NIH), the National Science Foundation (NSF) and others.

Data source: The American Association for the Advancement of Science (AAAS), Research and Development FY 2012, Historical Table 2, based on OMB and agency R&D budgets

Contextual Metrics:

R&D expenditures per capita (statewide metric page only): Amount of externally-funded science and engineering R&D received by universities, compared to the total population.

Data source: National Science Foundation (NSF) Survey of Research and Development Expenditures at Universities and Colleges; US Census Bureau, Population Division, Population Estimates Program

Operationalization: Total extramural science and engineering R&D expenditures for the institutionally-defined fiscal year at all Kentucky/US postsecondary institutions, divided by the annual estimate of the resident population of KY/the US as of July 1 in the calendar year containing the end of the institutionally defined fiscal years. This metric is expressed in dollars per capita (not millions of dollars per capita). The population data are not revised as new population estimates are released in subsequent years. Also include the equivalent national figure for the most recent fiscal year.

Research, Economic and Community Development

Externally-funded research and development, continued...

Institutional funding: Total science and engineering research and development expenditures from institutional sources for the institutionally-defined fiscal year at all Kentucky postsecondary institutions (statewide metric page) and at each institution separately (institutional metric pages)

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

Operationalization: This metric is expressed in millions of dollars at the statewide level and thousands of dollars at the institutional level.

Non-science and engineering funding: Total non-science and engineering research and development expenditures for the institutionally-defined fiscal year at all Kentucky postsecondary institutions (statewide metric page) and at each institution separately (institutional metric pages)

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

Operationalization: This metric is expressed in millions of dollars at the statewide level and thousands of dollars at the institutional level.

Research, Economic and Community Development

Performance Metric:

Degrees and credentials in science, technology, engineering, mathematics, and health-related fields

Policy Objective 6: Increase basic, applied, and translational research to create new knowledge and economic growth.

Definition: Number and level of degrees and credentials conferred in science, technology, engineering, mathematics and health-related fields during the academic year.

Level(s): Statewide, Institutional (with AIKCU)

Data Source: CPE Comprehensive Database (KPEDS)

Operationalization: Certificates, Diplomas and Degrees at all levels in the Science, Technology, Engineering and Mathematics fields during an academic year (1 July through 30 June). Counts are generated from student-level degree records. Multiple awards received by the same student during the period are included, such as students receiving more than one short-term certificate, or students graduating with two Bachelor's degrees, as is possible with some double majors. A detailed list of CPE's list of STEM+H fields can be found in Appendix B: STEM+H Degrees and Credentials Detail.

Leading Indicator:

Enrollment in STEM+H fields: Annual, unduplicated headcount enrollment of students with first and/or second declared major in a STEM+H field.

Data Source: CPE Comprehensive Database (KPEDS)

Operationalization: Annual, unduplicated count of students with declared majors listed in CPE's list of STEM+H fields (Appendix B), including first or second majors.

Contextual Metrics:

Percent of degrees in STEM+H fields: Percent of all degrees which were conferred in science, technology, engineering, mathematics and health-related fields, using broad degree categories.

Data source: NCES IPEDS Completions Report

Operationalization: For this metric, STEM+H disciplines are identified using the following 2-digit classification of instructional programs (CIP) codes: 11 (Computer and Information Sciences), 14 (Engineering), 15 (Engineering Technologies), 26 (Biological Sciences), 27(Mathematics), 40 (Physical Sciences), 41 (Science Technologies), 51 (Health Professions) as reported on the IPEDS Completions Report. As a result, the total number of STEM+H degrees used in the calculation may vary from the performance metric which used the more refined 6-digit CIP. Both first and second majors are included in the count of degrees conferred, as are all award levels from certificate through doctoral.

Research, Economic and Community Development

Degrees and credentials in STEM+H fields, continued...

Eleventh-graders meeting STEM ACT benchmarks: Number of eleventh grade students scoring at or above ACT benchmarks in mathematics (college algebra benchmark of 22) and science (24). The ACT benchmark in mathematics is not the same as the Kentucky college readiness benchmark in mathematics, which is an ACT mathematics score of 19 (beginning in 2010). Eleventh grade Kentucky public school students were first required to take the ACT in academic year 2007-08 and comparable prior-year data are not available.

Data source: Kentucky Department of Education, from ACT score reports.

Operationalization: Calculated from scores of Kentucky public school students required to take the ACT in the eleventh grade. Eleventh grade Kentucky public school students were first required to take the ACT in academic year 2007-08 and have taken the ACT every year since. The ACT benchmarks are defined by ACT as the minimum test scores required for students to have a high probability of becoming college-ready. The ACT benchmark in mathematics is 22. The ACT benchmark in science is 24. The ACT benchmark in mathematics corresponds to the CPE college readiness benchmark for placement into college algebra. This is not the same as the Kentucky college readiness benchmark in mathematics, which is an ACT mathematics score of 19 (beginning in 2010). A Kentucky college readiness benchmark in science has not been established. The ACT data are from KDE.

Research, Economic and Community Development

Performance Metric:

Educational attainment of young adults

Policy Objective 7. Increase educational attainment and quality of life in Kentucky communities through regional stewardship, public service, and community outreach.

Definition: Percent of population ages 25-44 with an associate or higher degree.

Level(s): Statewide, Regional (Regional targets will be developed in conjunction with regional leaders and community members)

Data Source: 1990 and 2000 Decennial Census, and the American Community Survey (ACS), US Census Bureau

Operationalization: Number of Kentuckians ages 25-44 who reported attaining one of the following degree attainment levels: associate, bachelor's, masters or doctoral; divided by the total number of Kentuckians ages 25-44. Most recent five-year estimate from the American Community Survey was used: Table B15001. SEX BY AGE BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 18 YEARS AND OVER

Leading Indicator:

Closing the college degree gap (Undergraduate degrees per 1,000 young adults without an undergraduate degree): The annual number of Associate and Bachelor's degrees produced for every 1,000 young adults ages 25-44 who did not have an Associate or higher degree, statewide or at all institutions within the given region of the state (regional metric pages).

Data source: US Census 2000 and American Community Surveys; IPEDS Completions Reports

Operationalization: Degree numbers include all Kentucky institutions in the two-year and higher sectors that report Associate and Bachelor's degree completions to the federal Integrated Postsecondary Education Data System (IPEDS). State educational attainment numbers from the Census 2000, 2005 American Community Survey (ACS), and the 2009 one-year ACS. Regional educational attainment numbers are from the Census 2000 and the 2009 five-year ACS.

Contextual Metrics:

Young adults without an Associate or higher degree: Percent of young adults, ages 25-44, who have not attained an Associate or higher degree, overall and by highest level of educational attainment.

Data source: US Census 2000 and 2009 five-year American Community Survey.

Operationalization: Number of Kentuckians ages 25-44 who reported attaining one of the following attainment levels: less than high school, high school/GED, some college but no associate degree; divided by the total number of Kentuckians ages 25-44. Most recent five-year estimate from the American Community Survey was used: Table B15001. SEX BY AGE BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 18 YEARS AND OVER

Research, Economic and Community Development

Educational attainment of young adults, continued...

Seniors prepared to address community problems, 2009: Seniors at public universities reporting if their university education prepared them to address community problems. Regional pages display the results from the one public university within each region.

Data source: National Survey of Student Engagement (NSSE)

Operationalization: Survey administered to seniors in 2009. Responses to question: "My university education has helped prepare me to address real community problems." "Strongly disagree" and "disagree" combined as "Not prepared," "Strongly agree" and "agree" combined as "Prepared." "Neither agree nor disagree" represented as "Not sure."

Efficiency and Innovation

Performance Metric:

Online learning

Policy Objective 8. Increase academic productivity through program innovations.

Definition: Percent of total completed credits taken through online and other distance learning.

Level(s): Statewide, Institutional, AIKCU

Data Source: CPE KPEDS

Operationalization: Of all courses completed in the academic year, the percentage of credit hours completed which were delivered through distance learning. Course completion is determined based on students' grades following conventions in the Standardized Grade Crosswalk. Only courses from which students withdrew without penalty, in which students received audit credit, or for which grade reporting was delayed are not included. Distance learning is defined as follows: "Any for-credit instruction where more than 50 percent of the delivery of instruction may utilize any or all of the following: print material, e-mail, telephone, audio tape, video tape, television/VCR, satellite, or computer for access to CD ROM, interactive video, Internet, or the Web. The instructor must be physically separated from the students for the majority of the term. This criterion excludes sessions that may be scheduled individually, such as advising, labs, or testing. KTLN sections that originate from campus are considered distance learning courses." For every class in the class table, including undergraduate, graduate, technical, developmental, etc. for which the distance learning mode is coded as anything other than No or <Null> (or any equivalent code), the entries in the course table corresponding to those classes are flagged, and the credit hours recorded in those entries are distance learning credit hours. Annualized calculation is for the summer-fall-spring academic year.

Leading Indicator:

Online learning of freshmen: Percent of all credit hours completed by freshmen which were delivered through distance learning.

Data Source: KPEDS

Operationalization: Freshmen students are defined as those who have completed less than the equivalent of one year of undergraduate study (less than 30 credit hours). All other elements operationalized as in performance metric described above.

Efficiency and Innovation

Online learning, continued...

Contextual Metrics:

Undergraduate instruction completed online: Percent of Kentucky's undergraduate instructional activity (credit hours) offered online, by public sector, compared with the SREB average.

Data source: Southern Regional Education Board (SREB)

Operationalization: E-learning subtotal of the SREB State Data Exchange's Higher Education: Enrollment & Instructional Delivery Modes section, tables titled "Undergraduate Instructional Activity by Type of Instruction, Public Two-Years (year)." SREB average is simple average of the other fifteen SREB states' e-learning subtotals.

Recent graduates' credit hours taken online: For all graduates during the academic year (by level), the percent of their total credits-to-degree which were taken as distance learning.

Data source: CPE Comprehensive Database (KPEDS)

Operationalization: Numerator: total distance learning hours. Denominator: distance learning hours + non-distance learning hours. Graduates were identified from the most recent degree file reported by the institutions and were deduplicated by institution and "highest" degree (e.g., doctoral degrees took precedent over master's; master's over bachelors, etc). For each graduate, all courses completed prior to their graduation date were identified as either distance learning or not using `dl_mode_delivery` ('N' or '' = not distance learning) and the total credit hours in each category were summed.

Efficiency and Innovation

Performance Metric:

Degree productivity relative to education and related expenditures

Policy Objective 9. Maximize the use of postsecondary and adult education resources.

Definition: Number of degrees and credentials conferred for every \$100,000 in education and related expenditures at public colleges and universities.

Level(s): Statewide

Data Source: National Governor's Association, Complete to Compete initiative, from IPEDS and US Census data

Operationalization: Education and related expenditures are total spending on direct educational costs. It includes spending on instruction, student services, and the education share of spending on central academic and administrative support, and on operations and maintenance. The sum of education and related expenses, research and related expenses, public service and related expenses, and scholarships and fellowships totals to education and general (E&G) expenses. Awards included in the numerator are undergraduate certificates of at least 1 year and Associates, Bachelors, Masters, Doctorate, and Professional degrees (post-baccalaureate and graduate certificates excluded). Awards are weighted using a median earnings index by degree level and field. For more information about the weighting of degrees, review the detailed Complete to Compete documentation here:

<http://www.subnet.nga.org/ci/1011/resources.htm>

Leading Indicator:

Education spending per FTE: Amount of education and related expenditures at public colleges and universities for every full-time equivalent (FTE) student enrolled. Top state was Utah in 2005 and Florida in 2009. Kentucky was ranked 17th overall in 2005 and 14th overall in 2009.

Data source: National Governors Association, Complete to Compete initiative, from IPEDS data

Operationalization: See operationalization of performance metric for description of education and related expenditures. The number of FTE students is calculated based on the credit and/or contact hours reported by the institution on the IPEDS 12-month enrollment (E12) component and the institution's calendar system, as reported on the Institutional Characteristics (IC) component. For institutions with continuous enrollment programs, FTE is determined by dividing the number of contact hours attempted by 900.

Contextual Metrics:

National degree productivity: Best performing state and national average on performance metric. Top state was South Dakota in 2005 and Florida in 2009. Kentucky was ranked 16th overall in 2005 and 14th overall in 2009.

Data source: National Governor's Association, Complete to Compete initiative, from IPEDS and US Census data

Operationalization: Same as performance metric

Efficiency and Innovation

Degree productivity, continued...

Classroom space utilization: The average number of hours that classrooms were in use during the week, and the percent of classroom space used when class was in session.

Data source: CPE Comprehensive Database (KPEDS)

Operationalization: Number of hours per week that the average classroom was scheduled during the instructional week. Percentage of space used is the proportion of available student stations which were occupied when the room was in use during the instructional day.

Efficiency and Innovation

Performance Metric:

Credits attempted by degree graduates

Policy Objective 8. Increase academic productivity through program innovations.

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

Level(s): Institutional

Data Source: CPE KPEDS

Operationalization: Mean number of credits that students attempted at the time of graduation, including credit transferred in to the degree-granting institution and developmental/remedial coursework. Includes the number of hours accepted in transfer, but does not include credit hours for persons earning a second degree at the same level in the same year.

Leading Indicator and Contextual Metrics: TBD as institutional dashboards are developed.

Terms and Acronyms

AERIN: (Adult Education Research and Information Network): The central repository for data and information about adult learners served by Kentucky Adult Education.

AIKCU: Association of Independent Kentucky Colleges and Universities represents Kentucky's 20 nonprofit, non-tax supported, four year colleges and universities accredited by the Southern Association of Colleges and Schools (SACS).

CIP (Classification of Instructional Programs): is a taxonomic scheme that will support the accurate tracking, assessment, and reporting of fields of study and program completions activity.

Contextual metric: data closely related to the performance metric against which progress or current status may be benchmarked and interpreted.

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 here: [Standardized Grades Summary](#)

ETS (Educational Testing Service): develops, administers and scores more than 50 million tests annually — including the TOEFL® and TOEIC® tests, the GRE® General and Subject Tests and *The Praxis Series*™.

GED®: GED Testing Service, a program of the American Council on Education, develops, delivers and safeguards the GED 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.

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.

Leading indicator: a metric that helps predict future performance on a target metric, either because it is (1) a mathematical component of the target metric which are reported earlier or more frequently than the target metric or 2) when reported are highly correlated in some way with future performance on the target metric.

Operationalization: detailed guidelines for creating or replicating a metric

NRS : The National Reporting System for Adult Education (NRS) is an outcome-based reporting system for the State-administered, federally funded adult education program. Developed by the [U.S. Department of Education's](#) Division of Adult Education and Literacy (DAEL), the NRS continues a cooperative process through which State adult education directors and DAEL manage a reporting system that demonstrates learner outcomes for adult education.

Terms and Acronyms

NSSE (National Survey of Student Engagement): The National Survey of Student Engagement (NSSE) documents dimensions of quality in undergraduate education and provides information and assistance to colleges, universities, and other organizations to improve student learning. Its primary activity is annually surveying college students to assess the extent to which they engage in educational practices associated with high levels of learning and development.

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

Metrics Index

Metric Title	Page Number
CAP and KTG expenditures and deficits.....	18
Classroom space utilization	29
Closing the adult basic education gap	7
Closing the college degree gap	24
College readiness of all public high school graduates	3
College readiness of college entrants.....	3
College-going rate of high school graduates	6
College-ready high school graduates by subject	4
Completion Ratio	10
Credits earned by degree graduates	30
Degree productivity relative to education and related expenditures.....	28
Degrees and credentials conferred	9
Degrees and credentials in science, technology, engineering, mathematics, and health-related fields.....	22
Education spending per FTE	28
Educational attainment of young adults	24
Eleventh-graders meeting STEM ACT benchmarks	23
Enrollment by Degree Sought.....	10
Enrollment in STEM+H fields	22
Externally-funded research and development	20
Federal R&D Budget	20
Funding Source: Lottery Revenue.....	17
GED® Graduates.....	7
GED® graduates transitioning to college	7
Graduation rate gaps of low-income, underprepared, and underrepresented minority students	14
Graduation rates (Bachelor's and Associate).....	12
Institutional funding	21
Licensure exam pass rate.....	8
Low Income Graduation Rate Gap.....	14
National degree productivity.....	28
Net direct cost for low-income students.....	19

Metrics Index

Metric Title	Page Number
New teacher excellence (top 15% nationally)	8
Non-science and engineering funding	21
Online learning.....	26
Online learning of freshmen	26
Percent of degrees in STEM+H fields.....	22
Qualified students not receiving low-income grants.....	17
R&D expenditures per capita.....	20
Readiness of all high school graduates in the region	5
Recent graduates' credit hours taken online	27
Retention	13
Seniors prepared to address community problems, 2009	25
State appropriations for public higher education	16
State funding per student.....	16
State vs. federal investment in financial aid.....	17
Student share of public postsecondary finance	16
Students graduating in minimum time to degree	12
Success in college courses	4
Transfer from KCTCS to four-year colleges and universities	11
Undergraduate instruction completed online.....	27
Undergraduate Students On-Track to Graduate	9
Underprepared Students' Graduation Rate Gap	14
Underrepresented Minorities' Graduation Rate Gap.....	15
Young adults without an Associate or higher degree.....	24

Appendix A: Regional Assignment of Kentucky Counties

County Name	FIPS County Code	Region	County Name	FIPS County Code	Region
Adair	1	West Central Kentucky	Gallatin	77	North Kentucky
Allen	3	West Central Kentucky	Garrard	79	Southeast Kentucky
Anderson	5	Central Kentucky	Grant	81	North Kentucky
Ballard	7	West Kentucky	Graves	83	West Kentucky
Barren	9	West Central Kentucky	Grayson	85	West Central Kentucky
Bath	11	East Kentucky	Green	87	West Central Kentucky
Bell	13	Southeast Kentucky	Greenup	89	East Kentucky
Boone	15	North Kentucky	Hancock	91	West Central Kentucky
Bourbon	17	Greater Lexington	Hardin	93	West Central Kentucky
Boyd	19	East Kentucky	Harlan	95	Southeast Kentucky
Boyle	21	Southeast Kentucky	Harrison	97	Greater Lexington
Bracken	23	North Kentucky	Hart	99	West Central Kentucky
Breathitt	25	East Kentucky	Henderson	101	West Kentucky
Breckinridge	27	West Central Kentucky	Henry	103	Central Kentucky
Bullitt	29	Greater Louisville	Hickman	105	West Kentucky
Butler	31	West Central Kentucky	Hopkins	107	West Kentucky
Caldwell	33	West Kentucky	Jackson	109	Southeast Kentucky
Calloway	35	West Kentucky	Jefferson	111	Greater Louisville
Campbell	37	North Kentucky	Jessamine	113	Greater Lexington
Carlisle	39	West Kentucky	Johnson	115	East Kentucky
Carroll	41	North Kentucky	Kenton	117	North Kentucky
Carter	43	East Kentucky	Knott	119	East Kentucky
Casey	45	Southeast Kentucky	Knox	121	Southeast Kentucky
Christian	47	West Kentucky	LaRue	123	West Central Kentucky
Clark	49	Greater Lexington	Laurel	125	Southeast Kentucky
Clay	51	Southeast Kentucky	Lawrence	127	East Kentucky
Clinton	53	West Central Kentucky	Lee	129	Southeast Kentucky
Crittenden	55	West Kentucky	Leslie	131	Southeast Kentucky
Cumberland	57	West Central Kentucky	Letcher	133	East Kentucky
Daviess	59	West Central Kentucky	Lewis	135	East Kentucky
Edmonson	61	West Central Kentucky	Lincoln	137	Southeast Kentucky
Elliott	63	East Kentucky	Livingston	139	West Kentucky
Estill	65	Southeast Kentucky	Logan	141	West Central Kentucky
Fayette	67	Greater Lexington	Lyon	143	West Kentucky
Fleming	69	East Kentucky	McCracken	145	West Kentucky
Floyd	71	East Kentucky	McCrery	147	Southeast Kentucky
Franklin	73	Central Kentucky	McLean	149	West Central Kentucky
Fulton	75	West Kentucky	Madison	151	Southeast Kentucky

(cont)

Appendix A: Regional Assignment of Kentucky Counties

County Name	FIPS County Code	Region	County Name	FIPS County Code	Region
Magoffin	153	East Kentucky	Powell	197	Southeast Kentucky
Marion	155	Greater Lexington	Pulaski	199	Southeast Kentucky
Marshall	157	West Kentucky	Robertson	201	Greater Lexington
Martin	159	East Kentucky	Rockcastle	203	Southeast Kentucky
Mason	161	East Kentucky	Rowan	205	East Kentucky
Meade	163	West Central Kentucky	Russell	207	West Central Kentucky
Menifee	165	East Kentucky	Scott	209	Central Kentucky
Mercer	167	Greater Lexington	Shelby	211	Central Kentucky
Metcalfe	169	West Central Kentucky	Simpson	213	West Central Kentucky
Monroe	171	West Central Kentucky	Spencer	215	Greater Lexington
Montgomery	173	East Kentucky	Taylor	217	West Central Kentucky
Morgan	175	East Kentucky	Todd	219	West Central Kentucky
Muhlenberg	177	West Central Kentucky	Trigg	221	West Kentucky
Nelson	179	Greater Lexington	Trimble	223	Greater Louisville
Nicholas	181	Greater Lexington	Union	225	West Kentucky
Ohio	183	West Central Kentucky	Warren	227	West Central Kentucky
Oldham	185	Greater Louisville	Washington	229	Greater Lexington
Owen	187	Central Kentucky	Wayne	231	Southeast Kentucky
Owsley	189	Southeast Kentucky	Webster	233	West Kentucky
Pendleton	191	North Kentucky	Whitley	235	Southeast Kentucky
Perry	193	Southeast Kentucky	Wolfe	237	East Kentucky
Pike	195	East Kentucky	Woodford	239	Greater Lexington

Appendix B: STEM+H Fields

Fields are listed by their federal Classification of Instructional Program (CIP) code. The first two digits reflect a broad categorization, with the next two digits narrowing the field, and the last two digits narrowing the field even further. Eight-digit CIP codes are not maintained by the federal government (NCES) but are native to CPE.

- Two digit CIPS included in their entirety in bold.
- “XX” indicates that all CIP codes within the indicated level (two- of four-digits) are included.
- Six or eight-digit CIPS that are unique to STEM+H programs at individual institutions in italics.

01.09XX	Animal Sciences
01.10XX	Food Science and Technology
01.11XX	Plant Science
01.12XX	Soil Sciences
01.99XX	Agriculture, Agriculture Operations and Related Sciences, Other
03.01XX	Natural Resources Conservation and Research
03.03XX	Fishing and Fisheries Sciences and Management
03.05XX	Forestry
03.06XX	Wildlife and Wildlands Science and Management
03.99XX	Natural Resources and Conservation, Other
04.02XX	Architecture
11.XXXX	Computer and Information Sciences and Related Services
<i>13.1206</i>	<i>"SKYTeach" -- WKU only</i>
<i>13.1206.01</i>	<i>BS in Middle & Secondary Education with concentration in Biology -- UofL only*</i>
<i>13.1206.02</i>	<i>BS in Middle & Secondary Education with concentration in Chemistry -- UofL only*</i>
<i>13.1206.03</i>	<i>BS in Middle & Secondary Education with concentration in Earth & Space Science -- UofL only*</i>
<i>13.1206.04</i>	<i>BS in Middle & Secondary Education with concentration in Middle School Math -- UofL only*</i>
<i>13.1206.05</i>	<i>BS in Middle & Secondary Education with concentration in Physics -- UofL only*</i>
<i>13.1206.06</i>	<i>BS in Middle & Secondary Education with concentration in Science -- UofL only*</i>
<i>13.1206.07</i>	<i>BS in Middle & Secondary Education with concentration in Secondary Education Math -- UofL only*</i>
<i>13.1206.11</i>	<i>MAT in Middle School Education with concentration in Math -- UofL only*</i>
<i>13.1206.12</i>	<i>MAT in Middle School Education with concentration in Science -- UofL only*</i>
<i>13.1206.21</i>	<i>MAT in Secondary Education with concentration in Biology -- UofL only*</i>
<i>13.1206.22</i>	<i>MAT in Secondary Education with concentration in Chemistry -- UofL only*</i>
<i>13.1206.23</i>	<i>MAT in Secondary Education with concentration in Earth & Space Science -- UofL only*</i>
<i>13.1206.24</i>	<i>MAT in Secondary Education with concentration in Math -- UofL only*</i>
<i>13.1206.25</i>	<i>MAT in Secondary Education with concentration in Physics -- UofL only*</i>
<i>13.1399.05</i>	<i>Computer Science and Mathematics Teacher Education--MoSu only*</i>
<i>13.1307</i>	<i>Health Education awarding a BA/BS degree--MuSu only*</i>
13.1311	Mathematics Teacher Education
13.1316	Science Teacher Education/General Science Teacher Education
13.1321	Computer Teacher Education
13.1322	Biology Teacher Education
13.1323	Chemistry Teacher Education
13.1327	Health Occupations Teacher Education
13.1329	Physics Teacher Education
13.1337	Earth Science Teacher Education
14.XXXX	Engineering

Appendix B: STEM+H Fields

15.XXXX	Engineering Technologies and Engineering-Related Fields
19.05XX	Foods, Nutrition, and Related Services
26.XXXX	Biological and Biomedical Sciences
27.XXXX	Mathematics and Statistics
27.999902	<i>Mathematics and Computer Programming--MoSu Only</i>
30.01XX	Biological and Physical Sciences
30.06XX	Systems Science and Theory
30.10XX	Biopsychology
30.18XX	Natural Sciences
30.19XX	Nutrition Sciences
30.25XX	Cognitive Science
30.27XX	Human Biology
30.30XX	Computational Science
30.32XX	Marine Sciences
30.0801	<i>Mathematics and Computer Science--MoSu Only</i>
31.0505	<i>Pre-Physical/Pre-Occupational/Pre-Physician Assistant Therapy awarding a BS degree—MuSu Only</i>
40.XXXX	Physical Sciences
41.XXXX	Science Technologies/Technicians
51.XXXX	Health Professions and Related Programs
52.12XX	Management Information Systems and Services
52.13XX	Management Sciences and Quantitative Methods

* STEM+H status effective beginning in AY 2010-11

Source: NSF LSAMP Survey CIP Code Crosswalk for STEM disciplines, plus engineering and science technologies, STEM teaching majors, health, broader inclusion of computer, interdisciplinary, and agricultural science fields, and removing 03.02XX Natural Resources Management and Policy.

https://www.lsamp.org/help/help_stem_cip_2010.cfm