UC’s Role in Career Technical Education (CTE)

Over a decade ago, the University of California joined the state’s curriculum reform movement to support and expand the development of applied learning in CA high schools. The University encouraged high schools to develop courses that integrate career technical education (CTE) with college-preparatory academic content, and submit them for UC approval in the “a-g” subject areas.

This effort was successful: According to an annual review by the California Department of Education, the number of CTE courses approved by UC’s High School Articulation unit in the “a-g” subject areas increased dramatically over 13 years: from just 258 in 2000-01 to nearly 12,000 in 2012-13.

UC’s High School Articulation unit has approved CTE courses in all the “a-g” subjects, but the vast majority of them are visual and performing arts (“f”) or laboratory science (“d”) courses, or college-preparatory electives (“g”). Significantly fewer are history/social science (“a”), English (“b”), and mathematics (“c”) courses.

Source: Annual Report on California High School Career Technical Education Courses Meeting University of California A-G Admission Requirements, California Department of Education
UC Curriculum Integration: a critical K-12/higher education initiative

Recognizing the need for greater CTE representation in these core subject areas, and to assist high schools in meeting the significant course-design challenges they present, the University established the UC Curriculum Integration (UCCI) initiative. The initiative’s first program, the UCCI Institutes, launched in 2010 with funding provided by the state Career Technical Education Pathways Initiative (SB 70).

The UCCI initiative supports UC’s mission of teaching and public service by:

- Convening educators for the purpose of developing model integrated courses
- Making these model courses publicly available for any California high school to teach

Legislative support

In 2011, state Sen. Darrell Steinberg wrote the UCCI Institutes into state law and expanded them with his bill, SB 611. The Career Readiness Campaign of state Superintendent of Public Instruction Tom Torlakson also lists the UCCI Institutes as a key objective. Funding is currently provided by Sen. Steinberg’s SB 1070, which in 2012 reauthorized the Career Technical Education Pathways Program, and is administered by the California Department of Education, UC’s partner agency.

Commitment to college preparation and access

Given California’s adoption of Common Core State Standards (CCSS) and the CCSS-aligned CTE Model Curriculum Standards, the time is right for UC to strengthen its commitment to student access and achievement. By supporting schools in their efforts to offer a full range of courses that blend traditional academics and CTE – courses that can be used to fulfill the “a-g” subject requirements – UC can help prepare more California high school graduates for college and careers.

UCCI Institutes: Facilitating collaboration to produce innovative courses

The primary goal of the UCCI Institutes is to convene educators from throughout the state in order to:

- Develop frameworks for model integrated courses that can be taught in any California high school
- Create a culture of collaboration and community among educators to expand the opportunities for applied learning
- Introduce academic and CTE teachers to the key concepts of integrated course design

With CDE-administered funding, UC has conducted 14 UCCI Institutes since spring 2010. Beginning with the 2014-15 fiscal year, UCCI Institutes will be held “on demand,” with schools/districts able to request
an Institute to meet their specific needs. At the UCCI Institutes, academic and Career Technical Education (CTE) teachers **collaborate** to develop **innovative high school courses** that integrate the content and skills of the “a-g” academic subjects with the technical demands of CTE.

**UCCI** staff facilitates this work, ensuring the courses meet the criteria for UC approval in the “a-g” subjects. The UCCI Institutes are **free** to participants, and are designed to give teachers the time and resources to create challenging and engaging integrated courses.

Each Institute features a specific combination of CTE and “a-g” subjects – for example, Arts, Media and Entertainment integrated with English (“b”). In the past, these course-content combinations were predetermined by the UCCI Institutes planning team, based on academic subject area and CTE industry sector demand as well as the opportunities for authentic integration between various academic and CTE content areas. Beginning with the 2014-15 fiscal year, the academic and CTE content pairings will be determined by the schools/districts requesting an Institute.

### Upcoming UCCI Institutes

**April 10 - 13, 2014: Hyatt SFO, Burlingame, CA:**

- **Spring 2014 UCCI Institute #1:** English (“b”) and Math (“c”) | Information and Communication Technologies
- **Spring 2014 UCCI Institute #2:** Math (“c”) and Science (“d”) | Engineering

### UCCI Courses: Expanding college access for California students

As noted earlier, the UCCI Institutes are focused on supporting the development of courses especially in the subject areas where they are needed most. Among the 141,000 high school courses approved by the systemwide UC High School Articulation unit, fewer than 200 integrate CTE with history/social science (“a”), English (“b”) and mathematics (“c”). This uneven distribution across the curriculum makes it difficult for high school students to enroll in a CTE pathway while also completing courses that fulfill the “a-g” subject requirements for UC and California State University freshman admission.

The University is addressing this critical challenge with the UCCI initiative. Integrated courses such as those developed at the UCCI Institutes demonstrate the ways in which high schools can unite academic subject matter with career preparation. As more integrated courses satisfying the whole range of “a-g” subject areas are available in high schools, more California students will graduate ready for college and career.
Educators at the UCCI Institutes have produced a wide variety of unique courses that integrate core academic subjects with 10 of the 15 CTE industry sectors. For example:

- **U.S. History and Public Health** grounds analysis of major historical events in the context of public and community health;
- **Constructing Algebra 2** takes a project-based learning approach to traditional Algebra 2 curriculum, as students further their mathematics skills by completing hands-on projects resulting in the construction of a scale model or full-size building;
- **Depth of Field** allows students to develop critical analytical skills while they mature as artists by creating a series of real-world video projects in response to assigned readings.

**UCCI Courses: Expanding college access for California students**

UCCI courses are currently being offered in **82 high schools and Regional Occupational Programs** throughout California, across a variety of secondary institutions, the majority of which are comprehensive public high schools. The total number of schools offering UCCI courses has nearly doubled in a year – a rate of growth that clearly demonstrates the increasing demand for integrated courses meeting the “a-g” subject requirements for freshman admission to California’s public universities.

**UCCI TEP: Connecting California teachers, enriching high school education**

In July 2013, UCCI launched its second program, the **UCCI Teacher Exchange**, as a response to numerous requests from educators for support in offering UCCI courses. UCCI TEP brings teachers together and provides them with the resources they need to develop curriculum for UCCI courses.
Sessions are coordinated by UCCI staff and facilitated by UCCI Teacher Exchange Leaders: educators who are experienced teachers of UCCI courses.

At the Teacher Exchange events, these educators share their expertise – and the lesson plans, project ideas, assessment methods and other resources they have developed – with colleagues who will be teaching that same UCCI course for the first time. Teacher Exchange Leaders become valuable resources to other educators, helping them understand UC’s rigorous criteria for a-g courses as well as the logistics involved in successfully implementing a UC-approved integrated course.

Since July 2013, there have been four UCCI Teacher Exchanges, supporting a total of 33 teachers from five California districts in developing curriculum for four different UCCI courses.

Plans for the future
UCCI staff are currently involved in:

- Planning UCCI Teacher Exchange events to serve the additional 41 educators who have requested a UCCI Teacher Exchange for themselves and/or their districts
- Fleshing out online pages for the 30 UC-approved UCCI courses, pages that will allow our growing community of educators to easily share materials and ideas with one another – materials that can be made available to anyone online

UCCI: a commitment to excellence

The UCCI initiative has seen tremendous growth over the last year. What began in 2010 as a fledgling project has become an integral – and well-respected – statewide program of UCOP’s High School Articulation unit. Since August of 2012, UCCI has had a dedicated team of five full-time staff whose work has contributed to the following results:

- Increased course approval rate per Institute from 25 – 50% to an average of 88%
- Reduced course approval timeframe from more than six months to approximately eight weeks
- Increased the number of “a-g” approved UCCI courses from 17 to 30
- Increased the number of high schools and districts offering UCCI courses from 46 to 82

The UCCI ethos is grounded in continuous evaluation of its work so that it efficiently and effectively meets the needs of California’s high schools. UCCI prides itself on being responsive to feedback from UCCI Institutes and Teacher Exchange participants in order to continually refine program efforts to align California high school education with UC and CSU admission requirements.
UCCI plans for 2014-15

**Goal: optimize student access and success**

- Increase the number of students who have access to “a-g” courses by getting UCCI courses into at least 20 new districts throughout California.

**Goal: improve Public Interface between UC and Californians**

- Conduct up to eight UCCI Institutes in 2014-15, training 150-200 educators to design up to 32 more integrated courses that meet UC’s “a-g” criteria.
- Conduct at least six UCCI Teacher Exchanges to help 40–60 teachers implement integrated courses.
- Further UC’s leadership in the growing movement toward implementing integrated curriculum through UCCI staff presentations and participation at Educating for Careers, the Linked Learning Alliance convenings, and other related events.