



ConnectEd

The California Center for College and Career

Transforming today's education
for tomorrow's economy

Multiple Pathways

Frequently Asked Questions

What are multiple pathways?

Multiple pathways are multi-year, comprehensive programs of academic and technical study organized around broad industry sectors (e.g., biomedical and health sciences; construction and building design; agriculture and renewable resources; and arts, media, and entertainment) that prepare high school students for career and a full range of postsecondary options, including attending a 2- or 4-year college or university, an apprenticeship, the military, and formal employment training. A well-designed pathway consists of four core components:

- **An academic component** that includes the English, mathematics, science, history, and foreign language courses that prepare students to transition, without remediation, to the state's community colleges and universities, as well as to apprenticeships and formal employment training programs.
- **A technical component** of four or more courses that help students gain the knowledge and skills that can give them a head start on a successful career.
- **A series of work-based learning opportunities** that begin with mentoring and job shadowing and evolve into intensive internships, school-based enterprises, or virtual apprenticeships.
- **Support services** including counseling and supplemental instruction in reading, writing, and mathematics that help students master the advanced academic and technical content necessary for success in college and career.

What is an example of a pathway program?

Multiple pathways are a flexible approach that can be implemented using various models and in various educational settings. Models may include, but are not limited to, California Partnership Academies, career academies, National Academy Foundation schools, and small-themed schools. These programs and school types have distinct characteristics and requirements that may coincide with the core components and guiding principles of multiple pathways. To read more about some model programs, go to the ConnectEd website www.ConnectEdCalifornia.org.

What is the meaning of integrated curriculum and applied learning?

A multiple pathways approach relies on teachers to increasingly blend academic and technical curriculum in ways that connect theoretical knowledge and real-world applications. Integration can occur in two directions—infusion of appropriate and related academic concepts into technical courses to provide a theoretical foundation, and application of technical skills into academic courses to bring relevance. For example, when a carpentry instructor teaches students how to calculate volume in order to determine how many sacks of cement are needed to lay a foundation of a house, the teacher is reinforcing the geometry standards that students must master. Similarly, when a geometry teacher directs students to study architectural plans to figure out how much sheetrock is needed to line the walls and ceilings of a

new home in order to master their understanding of surface area, the teacher makes mathematics more relevant and understandable. Students are able to answer the question, “Why do I need to know this?”

That said, there is no expectation that every academic and technical teacher will integrate 100 percent of the curriculum. Rather, teachers should attempt, in a realistic way, to make connections whenever possible, which may be periodically in their day-to-day lessons or during an end-of-term project. Curricular integration is difficult and time-consuming. It relies on teacher training and a willingness on the part of academic and technical teachers to collaborate.

Do multiple pathways promote “college preparatory” curriculum?

Yes. By design, a pathway should ensure students access to and encourage them to complete the courses they need for admissions eligibility to the state’s colleges and universities. As such, courses that make up the academic core of a pathway program should meet the eligibility requirements for admission to UC and CSU. Although only a percentage of high school students will enroll in UC and CSU, it is desirable for students to complete the minimum eligibility requirements to leave that option open. Doing so also better prepares students for coursework at the California community colleges, other training options, and the workforce.

Do multiple pathways promote Career and Technical Education (CTE)?

Absolutely. A technical core of at least four year-long standards-aligned technical courses is a key component of each pathway, and authentic, industry-focused problem-based learning is also featured prominently in the academic core. A pathway also adopts the best traditions of work-based learning, which includes mentoring, job shadowing, internships, school-based enterprise, and virtual apprenticeships. Additionally, pathways promote participation in related student organizations such as Skills USA, Future Farmers of America, Health Oc-

cupations Students of America, or DECA. Multiple pathways reinforce the value of real-world learning for all students.

Is there time for students to complete both an academic and technical core of courses?

For students on a standard schedule of 6 periods a day, it is possible, albeit challenging, for them to complete both. Doing the math, pathway students are encouraged to complete:

- UC/CSU eligibility requirements—15 courses
- Technical sequence—4 courses
- Other state-mandated graduation requirements—2.5 courses (physical education and health)

These courses total 21.5 units of the 24 typically available for students on a 6-period day schedule, leaving 2.5 courses for other electives. This assumes that the student enters high school performing at grade level, without needing to take remedial courses.

However, a growing number of high schools have adopted more flexible schedules, such as a 4x4 block, that allow students to take up to 8 courses per year. Other schools use a “modified” block schedule or offer students 7- or 8-period days. With these schedule alternatives, any challenge to squeeze these requirements into the 4-year high school educational program disappears.

With multiple pathways, is there an expectation that all students will go to a 4-year college?

No. A pathway prepares students for any of a full range of postsecondary options—2- or 4-year college or university, an apprenticeship, the military, and formal employment training. To keep all of these options open for students, a pathway program of study should include the courses needed to be eligible for admission to the state’s public universities. It also ensures that students learn about the additional courses (technical as well as academic), certifications,

test scores, and extracurricular activities that are expected for success in particular postsecondary opportunities. A pathway is also appropriate for students who do not pursue any formal postsecondary education immediately following high school. Nevertheless, by design, pathways prepare students to pursue further education after high school, recognizing that few of today's young people are likely to enjoy lasting career success with just a high school diploma.

Is it expected that all CTE courses gain a–g approval?

No. High-quality, standards-based CTE courses have inherent value whether or not they have gained a–g approval from UC (as meeting faculty expectations for content and rigor). Furthermore, it is neither appropriate nor desirable for all CTE courses to strive for a–g certification. Multiple pathways are designed to help students master a wide range of knowledge and skills—academics, industry-related knowledge, occupational skills, authentic “hands-on” experience, and multi-faceted problem solving, to name just a few. Some CTE courses, with the strong academic and theoretical focus sought by UC and CSU, should be eligible for a–g approval; others should not. But all CTE courses, provided they are grounded in state-approved industry and academic/technical standards, play a central role in student learning.

Is the multiple pathways approach another form of tracking?

On the contrary, the multiple pathways strategy rejects the practice of tracking that has negatively affected students who are predominantly low-income, Latino, and African-American. Multiple pathways allow us to recognize that students will pursue a variety of options after high school. However, unlike

traditional tracking in which judgments are made early in high school (often based on highly suspect criteria) about which students should be prepared for different postsecondary options, the multiple pathways approach preserves the full range of postsecondary and career options for students. And it allows students to select their own future directions after high school graduation. To be specific, a multiple pathway program does not offer a remedial, general, and college preparatory mathematics class. All students are offered the college preparatory class.

Isn't it unrealistic, and even wrong, to expect students to choose a career as early as the 9th grade?

Yes, it is both unrealistic and wrong, and choosing a career path is not the objective for students enrolling in an industry-focused pathway of academic and technical study. Rather each pathway adopts an industry theme to offer students a real-world context for better understanding the academic and technical foundation they will need to succeed in whatever future postsecondary option or career path they choose. And, precisely because mastering the broad foundation of academic and technical knowledge is the primary objective of each pathway, students can easily switch pathways should they decide that another industry focus is more attractive. Nothing about a multiple pathways approach causes students to feel “locked in.” That said, for students who do have a strong sense of what they want to do—in both career and further education—multiple pathways offer the opportunity to pursue that interest in depth. Students not only will develop a deeper understanding of the academic and technical knowledge relevant to their career choice, but also will have the opportunity to develop more specific occupational skills that will give them a leg up in the labor market.

For more information

Contact: info@ConnectEdCalifornia.org

Visit: www.ConnectEdCalifornia.org

Call: 510-849-4945