

California Online Mathematics Education Times (COMET)

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California Online Mathematics Education Times (COMET) is an electronic news bulletin providing STEM-related news from California and across the nation, as well as information about professional events and opportunities, current educational issues, and online resources.

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ARTICLES & ANNOUNCEMENTS

(1) Preservice Teachers are Invited to Serve as Student Hosts at Upcoming California Mathematics Council Conferences

Contacts: Ivan Cheng and Kyndall Brown, Co-Chairs, CMC-South Student Volunteers Committee; Kate Reed, Chair, CMC-North Student Hosts Committee

The **California Mathematics Council (CMC)-South conference** will be held at the Palm Springs Convention Center on [October 24-25, 2014](http://www.cmc-south.org/conference-info-2014.html) (see www.cmc-south.org/conference-info-2014.html). University/college students who volunteer as Student Hosts for four hours will receive free conference registration and free membership in CMC! Please visit <http://tinyurl.com/cmcvolunteer> for more information and to apply to volunteer.

Preservice teachers may also apply to serve as student hosts at the **CMC-North conference**, which will be held on [December 5-7](http://cmc-math.org/conferences/cmc-north) at Asilomar in Pacific Grove (see <http://cmc-math.org/conferences/cmc-north>). More information will be shared [tonight \(September 23\)](#) by volunteer chair Kate Reed. If you did not receive information on this opportunity from Dr. Reed last year and would like to be included in her contact database, please email her at cf5reed@sbcglobal.net

(2) 2014 California STEM Symposium

Source: Californians Dedicated to Education

URL: http://cdefoundation.org/stem_symposium/

The 2014 California STEM Symposium is being held this week at the San Diego Convention Center. It concludes this afternoon with a presentation by Bill Nye. The extensive program document is available online at <http://tinyurl.com/2014STEMSymposium>

(3) Fifth Annual California STEM Summit

Source: Chris Roe, CEO, CSLNet

URL: www.castemsummit.com

The 5th Annual California STEM Summit will be held at the Westin Bonaventure Hotel & Suites in Los Angeles on [March 16-17, 2015](#). The theme is "Unleashing Curiosity Through STEM." More details will be forthcoming on the conference website, www.castemsummit.com

(4) Commission on Teacher Credentialing Votes to Eliminate Specialized Science Teaching Credentials

Source: California Commission on Teacher Credentialing - 1 August 2014

URL: www.ctc.ca.gov/commission/agendas/2014-08/2014-08-agenda.html

At its August meeting, the California Commission on Teacher Credentialing (CTC) approved a motion to "(a) eliminate Specialized Science credentials after the [June 2015](#) administration of the CSET Specialized Science examinations and (b) set [June 2020](#) as the final date when an individual can earn or qualify to earn a Specialized Science credential, and (c) move forward with the work to review the Subject Matter Requirements to align with [the Next Generation Science Standards (NGSS)]."

Since a Specialized Science credential does not authorize the holder to teach any course outside of a single area of science (e.g., chemistry or physics), it was argued that these credentials are not consistent with the integrated focus of the Next Generation Science Standards, particularly for grades

6-8. The holder cannot teach general, introductory, or integrated science at any grade level, nor any of the science areas outside the specific credential. Further, it was noted that "the four Specialized Science content area authorizations...represent the smallest percentage of new science teachers (8% in 2012-13)."

The elimination of these four Specialized Science credentials streamlines the Single Subject Science authorizations, leaving the following credentials: Biological Sciences, Chemistry, Geosciences, Physics, and Foundational-Level General Science.

In response to a question from Commissioner Beverly Young regarding how engineering and computer science might be addressed within the program standards in the science areas, Teri Clark replied, "Clearly the topic of engineering is a perfect one **today**, and we do need to think about that. That's in addition to what we're looking at here. We tend to follow from what classes are being offered in the public schools and what frameworks and content standards the Department has developed and the State Board has adopted. So we're definitely monitoring that to see how to move forward..."The proposed implementation timeline for NGSS in California is included as Appendix B of this Agenda Item (4C). Appendix C provides an overview of the NGSS-alignment plans for teacher preparation (subject matter requirements, examinations, and program standards). To view the entire agenda item (including appendices), visit www.ctc.ca.gov/commission/agendas/2014-08/2014-08-4C.pdf

(5) Supplementary and Subject Matter Authorizations Discussed at CTC Meeting

Contact: California Commission on Teacher Credentialing (CTC)

URL (Agenda): www.ctc.ca.gov/commission/agendas/2014-08/2014-08-agenda.html

URL (Item 5B): www.ctc.ca.gov/commission/agendas/2014-08/2014-08-5B.pdf

At its meeting last month, California Commission on Teacher Credentialing (CTC) staff initiated a discussion on policy issues related to Supplementary and Subject Matter Authorizations added to General Education Teaching Credentials. Roxann Purdue stated that the Supplementary Authorization (SA) and the Subject Matter Authorization (SMA) both allow departmentalized instruction through 9th-grade-level coursework. However, the SA requires 10 semester units of upper division content-area coursework or 20 units of lower division (or a combination of lower and upper division) coursework, while the SMA requires 32 semester units of content-area coursework. (As noted in the last issue of COMET, in the case of mathematics, the SA does not require coursework in (a) probability or statistics or (b) advanced algebra, while the SMA requires both.)

Purdue raised the question of whether teachers who add an SMA or SA to teach in a new content area should be required to complete a subject-specific pedagogy course for that content area, a policy change that would be consistent with the relatively new state requirement that anyone pursuing an initial or additional Single Subject teaching credential must take a related subject-specific pedagogy course as a condition of obtaining that additional authorization.

Concerns related to access and availability of pedagogy courses across all subject matter areas were raised by the California School Boards Association (CSBA), which also called for clarity regarding the requirements for both the SA and the SMA. The California Teachers Association echoed CSBA's concern about the availability of specific subject matter pedagogy courses for added authorizations.

Roxann Purdue noted that the Commission makes available to credential program providers a list of available pedagogy courses. Commission Chair Linda Darling-Hammond responded, "We do know that people who have had content-specific pedagogical training are more effective in the outcomes that they are able to develop with students, so we do want to continue that journey. We will need more conversation about specifics so that it is done in a way that is manageable and feasible."

Commissioner Juliet Tiffany-Morales raised the question of whether both authorizations are still needed, especially since the SA is not compliant with No Child Left Behind (NCLB) legislation. Roxanne Purdue responded that the SA has been in state statute for 35 years, and it would take legislation to remove this authorization. The decade-old SMA is not specified in statute but was created to align with Federal mandate (NCLB). She noted that at the time the SMA was established, it was felt that there was a need for both authorizations to give districts flexibility. Moreover, there were a number of options that teachers had to meet the Federal "highly qualified" requirement, and the SA does give the holder a pathway to the NCLB-compliant SMA. Tiffany-Morales pressed further, asking if stakeholders (districts, schools) still felt that both authorizations are needed, especially since the SMA and SA are so similar and "it can be confusing." In response, Purdue said that Commission staff would explore this topic with stakeholders as well as the related topic of the range of content that should be covered in the coursework required for each authorization.

After discussing all of the topics brought forward at the Commission meeting with stakeholders, Commission staff will bring this item back for further discussion at a later meeting.

(A video of the meeting is available online at <http://video.ctc.ca.gov/2014-08-14-Commission/> An audio recording of the discussion of this agenda item is available at www.ctc.ca.gov/audio/agendas/2014-08/2014-08-5B.mp3)

Related Articles

(5a) Majority of Single Subject Credential Candidates in 2012-13 Demonstrated Subject Matter Competency Via an Exam (CSET) Rather than Coursework

URL: www.ctc.ca.gov/educator-prep/statistics/2014-09-stat.pdf

The California Commission on Teacher Credentialing (CTC) recently released a report documenting that in 2012-13, 63% of Single Subject Teaching Credential candidates demonstrated subject matter competency via the examination route (CSET--California Subject Examinations for Teachers) rather than by taking a CTC-approved subject matter program (coursework).

Over 99% of the candidates for the Foundational-Level Mathematics (FLM) Credential verified subject matter competency via the test route, while only 43% of those earning a full Mathematics Credential did so. Only four universities have an approved FLM subject matter program: California State University (CSU) Channel Islands, CSU East Bay, CSU Los Angeles, and Sonoma State University. Only five have an approved program in Foundational-Level General Science: CSU Chico, Cal Poly Pomona, San Diego State University, Loyola Marymount University, and the University of La Verne. Only seven universities have CTC-approved subject matter programs in Biology, Chemistry, Geosciences, and Physics.

The report notes that "for all sciences--Foundational-Level, Full, and Specialized--the frequency of candidates who fulfilled the subject matter requirement through the examination option ranged from 72% for Science: Physics to 92% for Geosciences Specialized." A chart containing information for all subject matter areas is included in this short report: see www.ctc.ca.gov/educator-prep/statistics/2014-09-stat.pdf Included is a link to a chart of all CTC-approved subject matter programs: http://cig.ctc.ca.gov/cig/CTC_NewSubject/all.php

(5b) Teaching Credential for Industry Professionals

URL: www.ctc.ca.gov/notices/coded/2014/1408.pdf

An increasing number of districts in California are seeking industry experts to teach classes such as

computer science and engineering design in career technical, trade, or vocational courses. State requirements for a Designated Subjects Career Technical Education (CTE) Teaching Credential include a high school diploma and "three years of work experience directly related to each industry sector to be named on the credential" (see full requirements at www.ctc.ca.gov/credentials/leaflets/cl888.pdf). Credentialed teachers may earn a CTE Teaching Credential with one year of related work experience through some Commission-approved program sponsors -- see http://cig.ctc.ca.gov/cig/CTC_apm/DS_cte_33.php for a list of sponsors.

Credential specifications are now aligned with the *Career Technical Education Model Curriculum Standards* approved by the State Board of Education in 2013. The modified guidelines went into effect on **1 September 2014**.

There are 15 Industry Sectors, each of which is divided into multiple Career Pathways. Each Pathway represents specific academic and career content standards associated with a set of Occupations within a sector. Visit www.ctc.ca.gov/notices/coded/2014/1408.pdf for more details about the Preliminary and the Clear Designated Subjects CTE Teaching Credentials. See Appendix A of this document for the comprehensive "Designated Subjects CTE Industry Sectors, Pathways, and Occupations Guidance Chart."

(6) Update: K-12 Computer Science Bills

URL: <http://leginfo.legislature.ca.gov>

Many of this year's computer science bills have made legislative progress over the past month. **Last Saturday** (Sept. 20), Governor Brown signed into law SB 1200 (Public postsecondary education: academic standards). The bill requires California State University (CSU) and the University of California (UC) to develop admissions guidelines for high school computer science courses. It also encourages UC to ensure that computer science courses that satisfy the mathematics subject area requirements for admission build upon fundamental mathematics content provided in courses that align with the California Common Core State Standards for Mathematics (CA CCSSM). (See www.ucop.edu/state-governmental-relations/legislation/search/php-app/read_doc.php?id=2483 for a copy of the letter sent by UC last April expressing concern about this legislation and strong support for courses aligned with the CA CCSSM.)

SB 1200 also specifies that the model academic standards established by CSU and UC for high school courses in language arts and mathematics should be aligned with the CCSS. (SB 1200 was sponsored by Senator Alex Padilla who earned a degree in Mechanical Engineering from MIT.)

Below is a summary of the progress of each of the remaining computer science bills, as well as a short synopsis of the proposed legislation. For more information about the bills, visit <http://leginfo.legislature.ca.gov/>

The following two bills were enrolled and presented to Governor Jerry Brown on the following dates:

= **5 September 2014:** **AB 1539** (Content standards: computer science) -- This bill would require the Instructional Quality Commission (IQC) to consider developing and recommending to the State Board of Education, on or before **July 31, 2019**, computer science content standards for grades K-12, pursuant to recommendations developed by a group of computer science experts. The bill would require the commission to consider existing computer science content standards, including, but not limited to, national K-12 computer science content standards developed by the Computer Science Teachers Association.

= **3 September 2014:** **AB 1764** (School curriculum: mathematics: computer science) allows a district

that requires more than 2 courses in mathematics for graduation to award a pupil up to one mathematics course credit for successfully completing an approved computer science course. The following two bills were held under submission on [14 August 2014](#) (i.e., the bill author and committee members have indicated that they want to discuss or revise the bill further):

= **AB 1530** (Model curricula: computer science) Requires the State Superintendent of Public Instruction to consider identifying existing computer science model curricula for grades K-6 and make the model curricula available on the Department of Education's website to encourage computer science instruction in schools as early as feasible. The last action on this bill was over a month ago.

= **AB 2110** (Pupil instruction: computer science) requires the IQC to consider incorporating computer science curriculum content into the mathematics, science, history-social science, and English language arts/English language development frameworks.

The following bill was held under submission on [23 May 2014](#):

= **AB 1540** (Concurrent enrollment in secondary school and community college) includes language that exempts college-level computer science courses from inclusion in a high school principal's 5% limitation on the number of pupils in each grade level allowed to enroll in a community college during a summer session.

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Related Announcement:

(6a) CSLNet Releases "Computer Science Education in California: From Kindergarten to the Workforce"

Source: California STEM Learning Network (CSLNet)

URL: <http://tinyurl.com/cslnet-compsci-policybrief>

Yesterday ([September 22](#)) the California STEM Learning Network released a new policy brief, "Computer Science Education in California: From Kindergarten to the Workforce."

As numerous reports have documented, California needs to produce significantly more workers who are highly skilled in computing. The policy brief points to a number of areas of concern and presents a plan for overcoming the current challenges and creating a well-educated 21st-century workforce. To download this document, visit <http://tinyurl.com/compsci-ed-ca>

(7) Study Finds that Mathematics Diagnostic Testing Project (MDTP) Assessment is a Strong Predictor of 8th Grade Algebra I Success

URL: http://ies.ed.gov/ncee/edlabs/regions/west/pdf/REL_2014040.pdf

A report prepared for the Institute of Education Sciences (IES) by WestEd's Regional Educational Laboratory West demonstrates that performance of 7th graders on the Algebra Readiness Test of the Mathematics Diagnostic Testing Project (MDTP) is effective in predicting algebra success in the 8th grade.

"Using Assessment Data to Guide Math Course Placement of California Middle School Students" (authors: Chun-Wei Huang, Jason Snipes, and Neal Finkelstein) can be downloaded from the website above.

[From the report summary] The findings suggest that the MDTP test makes a valuable contribution to decisions about Algebra I placement. The MDTP results are largely consistent with those of the Grade 7 Math California Standards Test (CST), and they are available several months earlier than the CST

results, which are often not available until the summer or fall of the grade 8 school year. Moreover, even after controlling for grade 6 math CST performance, these results indicate that the MDTP test identifies a set of measurable skills that predict Algebra I proficiency. Practitioners may want to consider using MDTP results to aid in Algebra I placement decisions and to identify areas for focused support aimed at helping students succeed in Algebra I.

(8) Applications are Being Accepted for Service on Statewide Instructional Leadership Corps
(Deadline: [September 28](#))

Contact: Stanford Center for Opportunity Policy in Education

URL: <https://edpolicy.stanford.edu/events/1247>

The California Teachers Association (CTA), the Stanford Center for Opportunity Policy in Education (SCOPE), and the National Board Resource Center (NBRC) have received a collaborative grant to create an Instructional Leadership Corps (ILC) of accomplished classroom teachers, site leaders, administrators and higher education professionals. The ILC will provide professional development support to assist teachers in the implementation of the Common Core State Standards (CCSS) for English Language Arts (ELA), the CCSS for Mathematics, and the Next Generation Science Standards (NGSS) for California Public Schools.

The goals of the grant are to build a statewide network of accomplished classroom teachers and other education leaders who will (a) provide expertise for the instructional shifts needed to implement the CCSS and the NGSS; (b) support the design and implementation of school-based professional learning around instructional practice; (c) create and lead regional professional development; and (d) become a resource for continued instructional support statewide by communicating and coordinating with CTA/Local Associations, School Districts, County Offices of Education, and the California Department of Education.

Commitment and Stipend:

- This is a three-year project involving approximately five release days each year. The commitment for Project Year 1 (2014-15) is for each ILC member to provide four professional development sessions with another member of the ILC team and to attend two project meetings.
- One of the two project meetings is the Launch, which will be held on [October 26-28](#), 2014, at the Westin Bonaventure in Los Angeles. Travel expenses will be covered.
- Each ILC member will receive a stipend of \$2000 for Project Year 1.
- Teacher applicants should be a member of CTA or its affiliates and be teaching in a California public school.

Please contact Melissa Gilbert with any questions or concerns: mgilbert@stanford.edu - (408) 329-3678.

(9) Smarter Balanced Assessment Consortium Seeks Volunteers for Setting Achievement Levels
(Deadline: [September 26](#))

URL (SBAC): www.smarterbalanced.org/smarter-balanced-assessments/

URL: www.smarterbalanced.org/achievement-levels/

The Smarter Balanced Assessment Consortium is seeking educators and community members to serve on an Online Panel to recommend scores for grade-level proficiency. The orientation, test question review, and score recommendation will take approximately three hours. Panelists can complete the activity at any time during their two-day window (in one sitting or in multiple sittings).

Register online at www.SmarterBalanced.org/OnlinePanel by this coming [Friday \(September 26\)](#). You will be asked to specify your preference for content area (English Language Arts/Literacy or

Mathematics) and grade level, as well as a two-day window between [October 6](#) and [October 17](#) for your participation.

For more information on Achievement Level Setting, please visit www.smarterbalanced.org/achievement-levels/

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