



*The Mathematics and Science Teacher Initiative (MSTI) at
California State University, Fresno announces...*
Math and Science CSET Workshops
for Prospective
Mathematics and Science Teachers

Spring 2012 • <http://csufresno.edu/teachmathscience>

The Mathematics and Science Teacher Initiative (MSTI) at Fresno State would like to announce the availability of a series of mathematics and science content workshops for **prospective teachers of mathematics and science at the middle and/or high school levels**. These workshops are particularly appropriate for those currently holding or pursuing a Multiple Subject credential, although Single Subject credential holders may be interested in adding an authorization to their current credential. Below and on the next four pages, you will find information about Single Subject math and science credentials, as well as information about the workshops. Visit the **MSTI Web site** for updates: <http://csufresno.edu/teachmathscience> ("Announcements"). Also, feel free to contact the MSTI Director, Dr. Carol Fry Bohlin, with any questions: carolb@csufresno.edu

Single Subject Mathematics and Science Credentials

(Note: If you are not in a teaching credential program or do not already hold a credential, you should first contact the Education Student Services Center at Fresno State for initial advising: 559-278-0300.)

- **Foundational-Level Math (FLM):** Allows you to teach through algebra and geometry at any grade level, but intended primarily for those who wish to teach middle school math – Algebra I and below. Single Subject (SS) credential holders (in an area other than mathematics) and Multiple Subject (MS) credential holders need to pass CSET: Mathematics Subtests I and II (#110 and 111) plus take the foundational-level mathematics teaching methods course. At Fresno State, this course is CI 161/FLM or CI 160. The course will be offered during Spring and possibly Summer 2012. Prerequisite: A passing score on at least one of the CSET math subtests or a Liberal Studies concentration in mathematics (i.e., four 100-level mathematics courses).
- **Mathematics:** Allows you to teach all math courses through AP Calculus. SS teachers need to pass CSET: Math Subtests I, II, & III (#110-112). MS teachers must pass these and take CI 161/Math, which is offered each fall semester. Prerequisites include passing at least two of the three required CSET math subtests.
- **Foundational-Level General Science (FLGS):** Allows you to teach introductory and general science, introductory life science, and introductory physical science in grades K-12 and integrated science in grades K-8. Single Subject teachers need to pass CSET: Science Subtests I and II (#118 and 119). MS teachers need to pass the subtests and take a SS methods course (CI 161/FLGS), which will be offered in Summer 2012.
- **Science:** Allows you to teach introductory life and general science; integrated science I, II, III; plus biology/life science (biology option), earth and planetary science (earth sciences option), chemistry (chemistry option), and/or physics (physics option). Authorization in more than one area is possible and encouraged, and a number of Single Subject (SS) science teachers add at least one other area of science to their initial credential to increase their instructional and employment options. Multiple Subject or non-science SS teachers who desire a SS Science Credential (or additional authorization area) must pass CSET: Science Subtests I and II (General Science) and CSET: Science Subtest III. (Additional authorizations can then be added by passing CSET: Science Subtest III in other areas of science.) Alternatively, MS and SS teachers can add a SS Science (Specialized) Credential by passing CSET: Science Subtests III and IV in the desired area(s). In addition to passing CSET: Science Subtests I-III (or III and IV), MS teachers would also need to take CI 161/Science (SS science teaching methods course) offered during the fall semester at Fresno State. (Those interested in taking this course should first contact the instructor, Dr. David Andrews, at dauidan@csufresno.edu)

CSET Mathematics and Science Preparation Workshops & Teaching Methods Courses

All workshops will be held on the campus of California State University, Fresno

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### ***MSTI's CSET: Mathematics Subtest I-III (# 110-112) Workshops for 2012***

**Note:** Because MSTI is a grant received from the CSU Chancellor's Office, the fee for each mathematics workshop is only **\$25** (total) for any Multiple Subject credential student (from any university), any credentialed teacher (Multiple or Single Subject), or any Fresno State student (Multiple or Single Subject), because they will be able to apply for their new math credential through Fresno State's credential office (Kremen Education, Room 151) after taking advantage of our workshops and courses. The workshop fee for those not able to apply for their initial or additional math (or science) credential through Fresno State's credential office (e.g., those currently earning an initial Single Subject math or science credential through another university) is \$150 (total). Registration is on a first-come, first-served basis. Space is reserved in the order of the date that payment is received. Mail a check (*made payable to SJVMP*) to May Lee c/o MSTI; 5005 N. Maple Ave., M/S ED 2; Fresno, CA 93740-8025; or bring a check to Kremen Education, Rm. 250 in an envelope addressed to May Lee.

#### **CSET: Mathematics Subtest I Overview (Algebra)**

- **Instructor:** Dr. Lance Burger ([lburger@csufresno.edu](mailto:lburger@csufresno.edu))
- **Dates:** Wednesday and Friday – February 24, 29; March 2, 7, 9, 14, 16, 21
- **Times:** Wednesday from 7:00 p.m. - 9:30 p.m. and Fridays 5:00 p.m. - 8:00 p.m. The workshop is scheduled to target the March 10 and May 5, 2012 administrations of the CSET (<http://www.cset.nesinc.com/>).
- **Location:** Fresno State – Science-II Room 207 See Web site for locations: <http://cmap.csufresno.edu/website/campus/viewer.htm>
- **Workshop Cost and Registration Information:** The total cost is \$25 for credentialed teachers and for Fresno State students (\$150 for Single Subject credential students enrolled at other universities). Register by **February 17** by mailing your name, address, phone number, email address, and a check (payable to SJVMP) to May Lee c/o MSTI; 5005 N. Maple Ave., M/S ED 2; Fresno, CA 93740-8025. The checks can also be dropped off in Kremen Education, Room 250 (Attn: May Lee, MSTI). Email May Lee with any questions: [maylay@mail.fresnostate.edu](mailto:maylay@mail.fresnostate.edu)
- **Parking:** Free for registered students. A daily parking permit to display on Wednesday will be distributed on Fridays. Parking on the Fresno State campus is free for everyone on weekends (after 4 p.m. on Fridays).

#### **CSET: Mathematics Subtest II Overview (Geometry; Probability/Statistics)**

- **Instructor:** Dr. Lance Burger ([lburger@csufresno.edu](mailto:lburger@csufresno.edu))
- **Dates:** Wednesday and Friday – March 23, 28; April 11, 13, 18, 20, 25, 27
- **Times:** Wednesday from 7:00 p.m. - 9:30 p.m. and Fridays 5:00 p.m. - 8:00 p.m. The workshop is scheduled to target the March 10 and May 5, 2012 administrations of the CSET (<http://www.cset.nesinc.com/>).
- **Location:** Fresno State – Science-II Room 207 See Web site for locations: <http://cmap.csufresno.edu/website/campus/viewer.htm>
- **Workshop Cost and Registration Information:** The total cost is \$25 for credentialed teachers and for Fresno State students (\$150 for Single Subject credential students enrolled at other universities). Register by **March 16** by mailing your name, address, phone number, email address, and a check (payable to SJVMP) to May Lee c/o MSTI; 5005 N. Maple Ave., M/S ED 2; Fresno, CA 93740-8025.

Checks can also be dropped off in Kremen Education, Room 250 (Attn: May Lee c/o MSTI). Email May Lee with any questions: [maylay@mail.fresnostate.edu](mailto:maylay@mail.fresnostate.edu)

- **Parking:** Free for registered students. A daily parking permit to display on Wednesday will be distributed on Fridays. Parking on the Fresno State campus is free for everyone on weekends (after 4 p.m. on Fridays).

### **CSET: Mathematics Subtest III (Calculus, History of Mathematics)**

- **Instructors:** Dr. Adnan Sabuwala ([asabuwala@csufresno.edu](mailto:asabuwala@csufresno.edu)) and Dr. Agnes Tuska ([agnest@csufresno.edu](mailto:agnest@csufresno.edu))
- **Dates:** Thursdays and Saturdays – February 25, 29 (NOTE: This one day is a Wednesday); March 3, 8, 10, 15, 17, 22, 24, 29; April 12, 14, 19, 21
- **Time:** Thursdays (and Wednesday, Feb. 29) from 5:30 p.m.-8:30 p.m. (Q&A from 5:15-5:30 p.m.), and Saturdays 9:00 a.m.-12:30 p.m. (Q&A from 12:30-1:00 p.m.)
- **Location:** Fresno State – Wednesday (**for February 29 only**) – Science I Room 143; Thursdays – Kremen Education Room 400; and Saturdays – Science II Room 207.
- **Workshop Cost and Registration Information:** The total cost is \$25 for credentialed teachers and for Fresno State students (\$150 for Single Subject credential students enrolled at other universities). Register by **February 17** by mailing your name, address, phone number, email address, and a check (*payable to SJVMP*) to May Lee c/o MSTI; 5005 N. Maple Ave., M/S ED 2; Fresno, CA 93740-8025. The checks can also be dropped off in Kremen Education, Room 250 (Attn: May Lee / MSTI). Email May with any questions: [maylay@mail.fresnostate.edu](mailto:maylay@mail.fresnostate.edu)
- **Parking:** Free for registered students. A daily parking permit to display on Thursdays will be distributed on Saturdays. Parking on the Fresno State campus is free for everyone on weekends (after 4 p.m. on Fridays and all day Saturday and Sunday).
- **Workshop Topics** - The tentative schedule below provides an overview of the topics to be covered in this workshop:
  - Sat., Feb. 25 -- Overview of math history in the California Framework and Standards; Arithmetic and Geometry.
  - Wed., Feb. 29 -- Trigonometry (Ptolemy), Algebra and analytic geometry.
  - Sat., Mar. 3 -- Female mathematicians, Calculus.
  - Thurs., Mar. 8 -- Trigonometric identities, sum and difference formulas with applications.
  - Sat., Mar. 10 -- Applications of trigonometric functions, graphing, solving.
  - Thurs., Mar. 15 -- Definition and properties of inverse trigonometric functions, complex numbers, De Moivre's Theorem.
  - Sat., Mar. 17 -- Limits and Continuity.
  - Thurs., Mar. 22 -- Rules of differentiation of elementary functions, definition of derivative and its interpretation, Rolle's Theorem, Mean Value Theorem, L'Hopital's Rule.
  - Sat., Mar. 24 -- Applications of derivatives, use of the derivative to analyze functions and planar curves, solution of separable differential equations.
  - Thurs., Mar. 29 -- Definition of a Definite Integral, Interpretation of the Definite Integral.
  - Thurs., Apr. 12 -- Applications of Integration: Fundamental Theorem of Calculus, Arc Length, Areas and Volumes.
  - Sat., Apr. 14 -- Applications of Integration (cont'd.), Sequences and Series: Arithmetic, Geometric Series.
  - Thurs., Apr. 19 -- Sequences and Series: Ratio Test, Comparison Test, Integral Test.
  - Thurs., April 26 -- Sequences and Series: Taylor series, Taylor polynomials.

## *MSTI's CSET: Science Subtest I-V Workshops at Fresno State*

**Note #1:** The CSU Chancellor's Office funds the MSTI grant, allowing the science workshops to be offered **free of charge** to any Multiple Subject (MS) credential student (from any university), any credentialed teacher (Multiple or Single Subject), or any Fresno State student (Multiple or Single Subject), because they will be able to apply for their new credential through Fresno State's credential office (Kremen Education, Room 151) after taking advantage of our workshops and courses. The workshop fee for those not able to apply for their initial or additional science (or math) credential through Fresno State's credential office (e.g., those currently earning an initial Single

Subject math or science credential through another university) is **\$50/day**. Mail a check (payable to SJVMP) to May Lee; 5005 N. Maple Ave., M/S ED 2; Fresno, CA 93740-8025; or bring a check to Kremen Education Room 250 for May Lee (c/o SJVMP). For questions about these sessions, contact Dr. Brad Huff: [bradh@csufresno.edu](mailto:bradh@csufresno.edu)

**Note #2:** If you would like to reserve a seat for a particular workshop, you must email Brad Huff at [maylay@mail.fresnostate.edu](mailto:maylay@mail.fresnostate.edu) at least 5 days before the workshop. Registration is on a first-come, first-served basis. Registration is vitally important since a session will be cancelled if there are too few registrants.

### **CSET: Biology, Chemistry, Earth & Planetary Science, General Science, & Physics Workshops**

- **Instructors:** Dr. Brad Huff, Ms. Kelly Sullivan, and Dr. David Tinker
- **Time:** 8 a.m.-4 p.m. on Orientation/General Science (CSET: Science Subtests I & II) overview days; 8 a.m.-3 p.m. on all other days (CSET: Science Subtests I-IV)
- **Dates** (Codes: GS= **Orientation and General Science overview**; P = **Physics**, B = **Biology**, C/EPS = **Chemistry and Earth & Planetary Science**)
  - January 21, 2012 (GS), February 4 (P), February 25 (B), March 3 (C/EPS)
  - March 24 (GS), April 14 (P), April 21 (B), April 28 (C/EPS)
  - May 19 (GS), June 2 (P), June 9 (B), June 16 (C/EPS),
  - June 23 (GS)
- **Location:** Fresno State campus: Kremen Education Building, Room 10 (lower level, near elevator) EXCEPT for February 4 and March 3, when the workshops will be held in Room 54/58 of the Kremen Education Building (lower level, west end of the building)  
**Map:** <http://www.csufresno.edu/ucomm/maps/pdf/CampusMapLTR4-10.pdf>
- **Parking:** Free in green and yellow lots on the Fresno State campus on Saturdays

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### **CI 161 - Foundational-Level Mathematics and Science Teaching Methods Courses**

**CI 161/FLM** – Required 3-unit methods class for prospective Foundational-level Mathematics teachers. Prerequisite: Must have passed at least one CSET: Mathematics subtest or have a strong mathematics background (e.g., 4+ classes toward a minor or major in mathematics). Those pursuing a full math credential must take CI 161/Math, which is offered during Fall Semester. Email the instructor of that course, Dr. Rajee Amarasinghe: [ramarasi@csufresno.edu](mailto:ramarasi@csufresno.edu), for more information.

- **Instructor, Day, and Class Time/Location:** Dr. Lance Burger ([lburger@csufresno.edu](mailto:lburger@csufresno.edu)); Thursdays, 7-9:50 p.m. in Science II, Room 207
- **Dates:** Third week in January through the third week in May 2012 (CSUF's Spring 2012 Semester)
- **Cost:** If a matriculated student, regular fees apply. If not a matriculated student, Open University fees and procedures apply (\$295/unit): <http://csufresno.edu/cge/programs/open.shtml> (**Course #: 32472**)

**CI 161/FLGS** – Required 3-unit methods class for prospective Foundational-level General Science teachers; not required for teachers currently holding a Single Subject credential. Those pursuing a full science credential in a content area such as biology or chemistry must take CI 161 (science section), which is offered each Fall Semester (permission of the instructor, Dr. David Andrews, is required: [davidan@csufresno.edu](mailto:davidan@csufresno.edu)).

- **Instructor:** Ms. Katy Hieger ([khieger@aol.com](mailto:khieger@aol.com))
- **Dates:** (a) Spring Semester 2012 (b) Summer Session: June 11 – July 3, 2012 (projected, but tentative)
- **Time:** (a) Most likely 7-9:50 p.m. on Thursdays, but subject to change based on student schedules (could be held on Saturdays); (b) 2:30 – 5:30 p.m. (projected, but tentative)
- **Location:** (a) Science I, Room 324; (b) Kremen Education, Room 10 (tentative)
- **Cost:** (a) If a matriculated student, regular fees apply. If not a matriculated student, Open University fees and procedures apply (\$295/unit): <http://csufresno.edu/cge/programs/open.shtml> **The course number is 36563;** (b) \$75/unit as an extension course or free to current Fresno State students
- **To register and to receive emailed course updates:** Please also email May Lee for more information and to be added to the course database: [maylay@mail.fresnostate.edu](mailto:maylay@mail.fresnostate.edu).

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***Additional MSTI Support for Prospective Math and Science Teachers***

**CSET Fees:** *MSTI will reimburse your test fees!* We'll need a copy of your receipt, a copy of your official test score(s), and our invoice form (obtain from May Lee: [maylay@mail.fresnostate.edu](mailto:maylay@mail.fresnostate.edu)). MSTI will reimburse up to two attempts per test (i.e., you can fail the first attempt and we will still reimburse your fee). The paperwork for your final CSET subtest fee reimbursement will be processed along with your credential application fee reimbursement. (We will hold onto your CSET reimbursement paperwork until you have completed CI 161 and have applied for your math or science credential.)

**Applying for your Credential:** *MSTI will reimburse your credential application fee!* It's very important that you apply for your credential through Sherri Nakashima's office in the Kremen Education building, Room 151 (8 a.m.-5 p.m., M-F) once you have passed the necessary CSET subtests and CI 161. Sherri's email address is [sherrin@csufresno.edu](mailto:sherrin@csufresno.edu) Request the form from May Lee: [maylay@mail.fresnostate.edu](mailto:maylay@mail.fresnostate.edu)

**Professional Involvement:** MSTI provides *free memberships in professional associations* for students in math and science methods classes, plus *conference travel support* for up to 20 CSUF students.

**COMET:** All MSTI workshop/course participants receive a free subscription to the weekly publication, *California Online Mathematics Education Times* (COMET). Check out back issues at <http://comet.cmpso.org/>

**CSET:**

- CSET test administration dates: March 10, 2012      May 5, 2012      July 14, 2012
- To register, visit the CSET Web site: <http://www.cset.nesinc.com/>

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Please feel free to contact me at [carolb@csufresno.edu](mailto:carolb@csufresno.edu) or (559) 999-3188 (cell) for more information, and also visit our Web site at <http://csufresno.edu/teachmathscience> for updates.

~ Dr. Carol Fry Bohlin • Professor and Director, Mathematics and Science Teacher Initiative (MSTI)  
California State University, Fresno