NEW MATHEMATICS TEACHERS RECEIVE TEACHING CREDENTIALS

This June, sixteen new mathematics teachers from the California State University, Fullerton (CSUF) Secondary Education Cooperative Teacher Education Program (SECTEP) received their Single Subject Teaching Credential in Mathematics. SECTEP is a year-long program where prospective teachers participate as "externs" during the fall and are "interns" as student teachers in the spring. As an "extern" these students help in three mathematics classes at the high school or middle school level. They often teach lessons and practice methods of delivery and classroom management.

As student teacher "interns", they are responsible for teaching three mathematics courses and their responsibilities conclude when they have assigned the end-of-semester grades to their students. Various CSUF Mathematics Department faculty members, as well as experienced retired mathematics teachers, supervise the student teachers while Dr. Alison Marzocchi oversees the credentialing process for the mathematics students. The student teachers are also mentored by at least one Master Teacher at their school site.

All students in the program were honored by the Mathematics Department with online kudos. We, along with their master teachers, are proud of these students and want to share some information about each of them with the following photos and biographies. All new credential candidates are registered with EDJOIN (**www.edjoin.org**). If you have a math opening and one of these candidates interests you, feel free to contact EDJOIN to learn more about their qualifications.

Cayden Adkison

Cayden Adkison graduated from California State University, Fullerton with a degree in Mathematics in 2020 and began the teaching credential program at CSUF the following semester. Mr. Adkison comes from a family full of teachers and educators and is excited to become one himself.

The majority of Mr. Adkison's educational experience prior to entering the program has been working at Mathnasium, a math learning center for students in grades 2-12. This experience played a big part in shaping his desire to teach students math for understanding, because math does indeed make sense.

Mr Adkison's enthusiasm for teaching in a real high school "classroom" during the COVID pandemic was not assuaged even with having no experience in a face-to-face classroom. Regardless of all the interesting and challenging obstacles faced during this past year as a student teacher, Mr. Adkison believes these challenges will only better prepare himself for a career as a future teacher.

Jovanna Carrera

Jovanna Carrera graduated with a Bachelor of Arts Degree in Mathematics from California State University, Fullerton with a concentration in Math Education and a Cognate in Economics in the Spring of 2019. She took a break from school for a year and spent her summer working for the MISS program. She joined the credential program in the Fall of 2020 at CSUF and obtained her credential in the Spring of 2021.

During the summers of 2016 to 2020 she worked with Dr. Pagni in the M.I.S.S. Program at CSUF as a tutor and in 2021 she will work as an instructor. During this time, she will have experienced three summer intensive courses in person and two online.

Ms. Carrera currently works at El Modena High School as a Teacher Candidate teaching Math 2 and Math 3 Honors, focusing on Geometry and Algebra 2. Her goal in her classes is to create a positive learning environment and to help students succeed. During her first semester in El Modena, she experienced online learning. The online learning encouraged Ms. Carrera to utilize interactive activities such as virtual puzzles, Nearpod, Peardeck, interactive Google Slides for graphing, and interactive Google Sheets Pixel Art.

Ms. Carrera always encourages her students to "try something" and ensures them that we can learn from mistakes. She also encourages students to collaborate with each other and to develop critical thinking skills.

Hank Chang

Hank Chang graduated with a Bachelor of Science Degree in Electrical Engineering from California State University, Northridge and a Masters in Business Administration from University of Southern California. He worked in the banking industry for the last 20 years before he left to pursue a career in teaching. He feels that this will be more meaningful to him.

In 2020, he started his Single Subject Credential in Mathematics from California State University, Fullerton. He is currently placed at Anaheim High School as a Teacher Candidate teaching Integrated Math II. Since then, he has met up the challenges of distance learning by recognizing the challenges faced by his students and by adjusting lesson strategies in an effort to ensure the success of his students. He opened up daily office hours for struggling students and for students that just needed an adult to talk to.

In order to instill a growth mindset in his students, he has introduced daily motivational quotes to encourage and motivate students who are facing challenges of the pandemic. He also designed his courses to work in groups as much as possible to encourage student participation and relationship building. He has been focused not only on making sure that students are learning but that they feel they are valued.

Roy Chung

Roy Chung earned a Bachelor of Science Degree in Applied and Computational Mathematics with a minor in Philosophy at University of California, Irvine in 2019. He just earned his Single Subject Teaching Credential in Mathematics from California State University, Fullerton in Spring 2021. He is a recipient of the MSTI Mathematics Candidate Scholarship.

While pursuing his Bachelor's degree, Roy discovered his passion for Mathematics and the unraveling of the intricacies that undergirded the discipline. During his 5th year of university, a former career aspiration reignited within him — he began to pursue the path of becoming a high school Mathematics teacher. Upon graduating from UCI, Roy took a gap year working as an AP Calculus tutor at Lee's Review SAT Academy in Diamond Bar, California — all the while applying for the CSUF teaching credential program.

Fast forward to Spring 2021, Roy is finishing up his student teaching assignment at Western High School in the Anaheim Union High School District. Though virtual teaching has not been easy, Roy has been able to glean many pedagogical lessons and discover what it means to be a student-centered teacher.

Christopher Espinoza

Christopher Espinoza earned a Bachelor of Arts in Mathematics degree from the University of California Riverside. After graduating, he continued to tutor in Mathematics and be a substitute teacher where he developed his passion in education. To pursue his passion in working with students and teaching Mathematics, he attended the CSUF Single Subject credential program.

As a teacher candidate, Mr. Espinoza had the opportunity to teach Algebra-1 and Algebra-2 students at La Quinta High School in the Garden Grove Unified School District. He worked with students online during the COVID-19 pandemic until March when he taught in a hybrid learning environment. Mr. Espinoza had to step up to the challenge of teaching through distance learning in a time where many other educators were also trying to adapt to this new learning environment through online platforms. He aimed to have Mathematics engaging in order for students to build problem solving skills. He also aimed for students to be confident and attempt to overcome and learn from any problem they come across.

Mr. Espinoza believes in a classroom with a learning environment that students are comfortable to ask questions they need and participate with the class. His mission is to also have a classroom where group engagements and collaboration will lead to building critical thinking skills that will benefit students even outside the classroom.

Wendy Gonzalez

Wendy Gonzalez earned a Bachelor of Arts Degree in Mathematics with a concentration in Teaching from California State University, Fullerton in May 2020. After graduating, she was admitted to the credential program at CSUF.

Ms. Gonzalez worked with the PRISE Summer Internship through MSTI at CSUF in the summer of 2020. She worked with three other interns to create a virtual field trip of the Fullerton Arboretum for third graders. She will be working with the M.I.S.S Program at CSUF during the summer of 2021.

As a teacher candidate at Santa Ana High School, Ms. Gonzalez taught Geometry and Algebra I while assisting with Algebra II, all through a virtual setting. She was able to work with different online learning platforms, such as Desmos and Go Formative, to support and engage students in distance learning. Ms. Gonzalez enjoys teaching but is always willing to learn more from her students. She hopes to create a positive learning environment for students where they collaborate with others and develop a growth mindset.

Ellie Hung

Ellie Hung obtained a Bachelor of Arts Degree in Marketing and Economics from Fudan University, Shanghai. After graduating, she started working as a data analyst at a market research company to pursue her passion in data science. The profession developed her interest in applied mathematics and allowed her to interpret and analyze real world situations through the lens of statistics. More importantly, through managing the induction program for junior analysts, she discovered her love and passion for teaching.

Ms. Hung completed the Single Subject Credential Program at California State University, Fullerton in Spring 2021. As a teacher candidate, Ms. Hung taught three Algebra II classes under the supervision of two different math teachers. She designed and led the lesson introduction activities to promote the development of academic language and improve student engagement in the virtual setting.

Building on her prior international experiences as a data scientist, Ms. Hung contributed to CSUF's college-wide initiatives to promote healthy retention pathways for historically marginalized teachers. Serving as an invited guest speaker for future teachers of color in STEM, she shared best practices from her virtual classrooms. Ms. Hung's vision as an educator is to help students discovering the real-world application of mathematics while developing critical thinking and problem-solving skills. She wishes to encourage students to enjoy and to love learning mathematics. Her classroom promotes a positive learning environment, with an emphasis on collaborative learning.

Robin Jang

Robin Jang graduated with a Bachelors in Education Sciences from the University of California, Irvine. She had been involved in a variety of research opportunities, teaching at academies, and tutoring privately. She joined the credential program a year later in the Fall of 2020 at CSUF and obtained her credential in Spring 2021.

Ms. Jang taught for a full year at Rancho San Joaquin Middle School in Irvine Unified School District as a Teacher Candidate during the Covid-19 pandemic. She had the opportunity to teach in both virtual and hybrid models using a variety of platforms including Nearpod, Zoom, Canvas, etc. Ms. Jang used the limited amount of time during the hybrid model to ensure students were still able to experience learning mathematical concepts in a variety of ways.

Ms. Jang also worked hard to create a classroom where students felt comfortable to be themselves, even with obstacles like masks and desk shields, by encouraging conversation and personality to come out during class. She wanted students to feel stability in her classroom when there was continual change in the outside world. Ms. Jang implemented a variety of innovative activities where students would be working outside and using a variety of manipulatives and representations to gain a deeper understanding of the content they were learning in the class. Ms. Jang has a heart to create a personal relationship with each student to get to know them as an individual in order to best serve them.

Aja Juola

Aja Juola earned a Bachelor of Arts Degree in Mathematics with a concentration in teaching at California State University, Fullerton in Spring 2019. She obtained her Single Subject Teaching Credential in Mathematics in May 2021.

As a teacher candidate, Ms. Juola was fortunate enough to start teaching two sections of Personal Finance virtually in August 2020 at Capistrano Valley High School. She made sure to keep students engaged throughout the class by holding discussions to help them relate what they were learning back to their current lives and future goals, such as applying for jobs, credit cards, and loans. She also got to take over teaching a section of Algebra II Trig Honors second semester, working with two other teachers in a cohort. She generated lesson plans, materials, and assessments that were used by other teachers in the cohort. Ms. Juola helped her students understand math through a conceptual approach that helps encourage students to think critically and guides them to understand how they can apply what they've learned beyond the classroom. She also relayed how various mathematics relate to prior and future courses and possible career paths.

Ms. Juola encourages all of her students to see how math plays a role in their daily lives. She firmly believes that no matter what you choose to do in life math can help you and hopes to help students by teaching them to develop a growth mindset that embraces mistakes as a positive learning experience.

Ayrton Lozada

Ayrton Lozada Maguina earned his Bachelor of Arts Degree in Mathematics with a minor in Economics from California State University, Fullerton in May 2020. He obtained his Single Subject Teaching Credential in Mathematics a year after graduation.

Mr. Lozada has been fortunate to start his journey working in education at an early age as a professor apprentice, AVID tutor, and bilingual tutor. Being involved with the Robert Noyce Scholar Program, he was provided with professional development and teaching opportunities that contributed to his growth as an educator.

Mr. Lozada completed his student teaching at Colton High School. He taught Algebra 1 and Algebra 2 during the COVID-19 pandemic. During this time, he also utilized his teaching skills, knowledge, and experience to design and develop innovative lessons using a range of digital platforms and resources to capture student thinking and collaboration.

Mr. Lozada's teaching philosophy is based on community and collaboration. He believes in the importance of fostering a strong classroom community environment where students can exchange ideas while utilizing their skills and knowledge to contribute to their peers' development and achieve academic excellence. One of his main goals is to help his students develop a growth mindset and see themselves as mathematicians. He is very excited to begin his career as a mathematics educator!

Irais Mares

Irais Mares graduated with a Bachelor of Arts Degree in Mathematics from California State University with a concentration in Math Education in the Spring of 2020. She continued her studies at CSUF to obtain her Single Subject Credential in Mathematics immediately after graduation. As the first in her family to obtain a bachelor's degree, she hopes to encourage and inspire future first-generation students. Most importantly, inspire Latinas to pursue a career in Mathematics.

As a teacher candidate, Mrs. Mares had the opportunity to teach Integrated Math I and III at Norwalk High School. Due to the Hybrid Schedule at Norwalk High School, Mrs. Mares was given the opportunity to give tutoring in the mornings. She preferred to call it, "Coffee with Mrs. Mares." She was able to work one-on-one with students, explain concepts to students using their native language Spanish, but most important, reinforce students' mathematical knowledge. As a teacher candidate during COVID-19, Mrs. Mares learned the importance of frequently checking in with students and parents. She realized that students would only be successful if their mental health needs were met.

Mrs. Mares is a strong believer in promoting a growth mindset, where students learn from their mistakes and ultimately challenge themselves.
In her free time, Mrs. Mares enjoys hiking, taking care of her vegetable garden, and enjoying a BBQ with her immediate family every Sunday. Mrs. Mares is excited to begin her career as a lifelong educator.

Priscilla Martinez

Priscilla Marissa Martinez earned her Bachelor of Arts Degree in Mathematics with a concentration in teaching and a cognate in computer science from California State University, Fullerton on May 2020.

Ms. Martinez conducted research with the goal to identify human presence in Pre-Calculus math textbooks and find any trends to shed light on the presence of women or people of color in the exercises. She presented her research at the Southern California Conference for Undergraduate Research and at Project Raise Research Symposium.

As an AVID tutor, Ms. Martinez worked with high school students to gain a deeper understanding of the content being taught in their classes, primarily math classes. Ms. Martinez was also a teacher for summer and after school STEM classes. Some of the classes she taught include Coding with Scratch, Video Game Design, physics concepts with LEGOs, Robotics, and more. She also helped develop curriculum for new classes and conducted research, wrote scripts, and was the host for an educational series on the YouTube.

Ms. Martinez had the pleasure of working with one class of Math 7, two classes of Math 8 Honors, and an AVID class at Mendez Fundamental Intermediate School in Santa Ana. Despite distance learning, due to COVID-19, Ms. Martinez maintained a classroom environment that was safe, welcoming, respectful, encouraged participation and critical thinking.

Maite Palacios Rosas

Maite Palacios Rosas graduated from California State University, Fullerton, in January 2020 with a Bachelor of Arts Degree in Mathematics with a teaching concentration. Ms. Palacios Rosas recently earned her Single Subject Credential in Mathematics and Bilingual Authorization at CSUF. She is the CSU Microsoft Scholarship and MSTI Future Bilingual Science/Math Teacher Scholarship recipient.

Ms. Palacios Rosas discovered her passion for teaching while working with a diverse student population as an in-class academic tutor and college coach for CSUF GEAR UP at South Jr. High School and Katella High School. She has also worked at Santiago Canyon College, Upward Bound Math and Science, as a Student Specialist at El Modena High School. In addition to advising students and managing a team of tutors, she taught mathematics to 9-12 grade students during the Summer Residential Program and Science Saturday. She currently works at Loara High School as a Teacher Candidate teaching Integrated Math II, focusing on Algebra 2 and Geometry.

Ms. Palacios Rosas has built a strong rapport with her students in the classroom. She understands the importance of developing a socially, emotionally, and academically safe environment where students can learn mathematics. She believes that this will ensure that students develop a growth, critical, empathetic, and resilient mindset that will prepare them for their future career and personal life. Ms. Palacios Rosas hopes to be their mentor and their role model as they pursue higher education.

Jessica Torres

Jessica Torres graduated from San Diego State University in 2016 with a Bachelor of Science in Child and Family Development with an emphasis in Family Development. Ms. Torres earned her Single Subject Teaching Credential in Mathematics and a Bilingual Authorization from California State University, Fullerton in May 2021.

Ms. Torres has worked at Santiago High School in Corona-Norco Unified School District as a Teacher Candidate teaching Integrated Math 3 and Integrated Math 2 Enhanced. Ms. Torres had the opportunity to experience both virtual and in-person teaching. She believes in creating a safe and engaging learning experience for all students. Ms. Torres' teaching philosophy places the utmost importance in students' academic and social emotional needs as well as emphasizes maintaining a growth mindset and being a positive role model for her students.

While at SDSU, Ms. Torres worked at SDSU's Children's Center as a teacher assistant and also tutored at the on-campus Mentor Center. Ms. Torres also has experience working with children of all ages, from preschool to high school, due to her experience substitute teaching for CNUSD as well as Alvord Unified School District since September 2018. Ms. Torres is looking forward to showing others the beauty of mathematics and beginning her journey as a high school educator.

Stephen Tran

Stephen Tran earned a Bachelor of Arts Degree in Mathematics with a concentration in Teaching Mathematics at California State University Fullerton. He recently earned his Single Subject Teaching Credential in Mathematics from CSUF.

Mr. Tran's early teaching experiences include working as a Supplemental Math Instructor and PRISE Summer Math Intern through CSUF. The experiences only validated his desire to pursue a career in teaching.

As a teacher candidate at Norwalk High School, Mr. Tran's teaching assignments included Integrated Math I and Calculus AB students. Having to work remotely, he utilized a wide variety of technology such as Desmos, Jamboard, and Nearpod to enhance student learning. Mr. Tran continuously puts forth great effort towards understanding students' unique learning behaviors and creating appropriate accommodations. He has shown the ability to implement equitable mathematical teaching practices and strives to give every student the opportunity to engage in rigorous, authentic, and relevant mathematics experiences.

Aside from teaching mathematics, Mr. Tran hopes to become a volleyball coach as well. Volleyball is one of his most favorite leisure activities. Growth mindset and skills developed in the sport also helped Mr. Tran find success in the classroom. He has been playing for over ten years and does not plan on stopping in the near future.

Joseph Zoltan

Joseph Zoltan earned a Bachelor of Arts Degree in Mathematics with a teaching concentration from California State University, Fullerton. In addition to being a husband and a father of two, he coached football and track while obtaining his single subject credential from Cal State Fullerton.

As a teacher candidate, Mr. Zoltan had the opportunity and the privilege to teach a diverse population of students. As he taught Algebra Foundations 1 and Pre-Calculus, online and in-person, Mr. Zoltan was able to build rapport with many students with myriad unique learning abilities at Buena Park High School.

In addition to teaching, Mr. Zoltan coached football and track. During football season, Mr. – or shall I say, Coach Zoltan was in charge of study hall which included the whole freshman football team – which helped further develop his classroom management skills. During the track season Coach Zoltan coached boys and girls long jump, triple jump and high jump. In addition to some sprints and the 4X100 relay.

Mr. Zoltan's philosophy is such that students do not care how much you know, until they know how much you care. His mission as an educator is to bring positive interactions in a math class and cultivate an environment that is not afraid to make mistakes.

FREE MATHEMATICS DIAGNOSTIC TESTING SERVICE AT CALIFORNIA STATE UNIVERSITY, FULLERTON

The California State University, Fullerton Mathematics Department is one of eleven sites in California for the Mathematics Diagnostic Testing Project (MDTP). MDTP is funded by the California Academic Partnership Program (CAPP) with the goal of informing secondary school students and teachers of the critical math skills and concepts needed to succeed in College Preparatory Mathematics courses. MDTP test items are aligned with the California Math Standards. MDTP tests, answer sheets and scoring services are offered at no charge to teachers in California public or private schools.

The Mathematics Diagnostic Testing Project tests are the only tests (other than teacher-made and scored) that have the option of providing each student a personal printout! The printout contains topic-by-topic feedback to students on their understanding of basic concepts in college preparatory mathematics. Both students and parents respect and appreciate this kind of feedback.

In addition to the individual student printout, the MDTP service provides each teacher with an item analysis of the class results, showing items that all students did well on, as well as items many students missed. It gives teachers insight into the content the students understand versus what they do not understand. Using distracters on the test items that students choose gives the teacher insight into students' misconceptions. In addition, the teacher has a printout of each student's results, allowing him/her to chart an individual's progress across various mathematical topics.

Teachers also receive a 2-page sheet on "Interpreting the Test Results" and a 2-page "Test Analysis Worksheet." The "Interpreting the Test Results" handout explains the various parts of the computer printout. Teachers or teams of teachers who want to work more deeply into the class' results can use the "Test Analysis Worksheet". It has teachers look at the five "easiest" problems

and five "hardest" problems on the test according to the students' results. Then teachers look at the various distracters, seeking clues that can uncover students' errors in reasoning, thereby informing teachers of areas of instruction that may need to be modified or revisited.

Select MDTP tests are also available in Spanish. For teachers who want to integrate technology, versions that require the use of a scientific calculator are available for all tests (order the X-version of the test). Finally, there are two versions that integrate coursework to assess students' general understanding of high-level college preparatory mathematics. The Integrated Second Year Readiness and Integrated Third Year Readiness exams can be selected for this purpose.

MDTP To Meet State End-Of-Year Testing

MDTP invites schools and districts to consider using MDTP as your local assessment to meet the State mandatory year-end testing requirement. MDTP diagnostic assessments meets requirements provided by the state as a "Diagnostic, Benchmark, or Interim Assessments for ELA and Mathematics"

For more info: https://mdtp.ucsd.edu/online-testing/spring-21-testing.html.

REMOTE ONLINE TESTING – Using MDTP Online During COVID-19

During the COVID-19 Coronavirus pandemic, MDTP will support educators engaging in remote and distance learning by offering remote testing on the MDTP Diagnostic (Readiness) testing platform.

Note: The 9th Grade Assessments located on the MDTP Assessment Platform are not available during school closures since these assessments require being proctored in a face-to-face environment.

The diagnostic tests available include:

(1) Assessment of Preparedness for 6th Grade Mathematics (6M35A20)
  *Assesses preparedness in foundational topics necessary for success in a CA Common Core Grade 6 mathematics course
  *Field-testing should occur in Grade 6 classrooms

(2) Assessment of Preparedness for 7th Grade Mathematics (7M40A15)
  *Assesses preparedness in foundational topics necessary for success in a CA Common Core Grade 7 mathematics course
  *Given near the beginning of a Grade 7 Math course or near the end of a Grade 6 Math course
  *Formerly known as the Grade 7 Math Readiness Test (7R40A15)
  *This test replaces Pre-Algebra Readiness

(3) Grade 8 Math Readiness (8M40A15)
  *Assesses preparedness in foundational topics necessary for success in a CA Common Core Grade 8 mathematics course
  *Given near the beginning of a Grade 8 Math course or near the end of a Grade 7 Math course
  *Formerly known as the Grade 8 Math Readiness Test (8R40A15)
  *This test replaces Pre-Algebra Readiness

(4) Pre-Algebra Readiness (PR40A04)
  *Tests whether students are ready for Pre-Algebra content
  *Given near the end of a basic math or a course preceding a Pre-Algebra course
  *Available until out of stock

(5) Algebra 1/Integrated Math 1 Readiness (AMR45A19)
  *Assesses readiness in foundational topics necessary for success in a CA Common Core entry-level Algebra I or Integrated Math 1 course as defined in the Mathematics Framework for CA schools
  *Given near the beginning of a course in either traditional Algebra I or Integrated Math I, or near the end of a Grade 8 Math course
  *Replaces the High School Math Readiness

Test (HS45A15) and Algebra Readiness Test
(AR45A10)

(6) Algebra Readiness (AR45A10)
*Tests whether students are ready for Algebra I
content
* Given near the end of a Pre-Algebra course
*Available until out of stock

(7) Geometry Readiness (GR45A19)
*Assesses readiness in foundational topics
necessary for success in a CA Common Core
Geometry course as defined in the
Traditional Pathway in the Mathematics
Framework for CA schools
* Given near the end of an Algebra I course

(8) Second Year Algebra Readiness (SR45A19)
*Assesses readiness in foundational topics
necessary for success in a CA Common Core
second year Algebra course as defined in the
Traditional Pathway in the Mathematics
Framework for CA schools
*Given near the end of a Geometry course

**(9) Integrated Second Year Readiness
(ISR45A17)**
*Assesses readiness in foundational topics
necessary for success in a CA Common Core
second-year integrated mathematics course
as defined in the Mathematics Framework
for CA schools
* Given near the end of a Geometry course

**(10) Integrated Third Year Readiness
(ITR45A17)**
*Assesses readiness in foundational topics
necessary for success in a CA Common Core
third-year integrated mathematics course as
defined in the Mathematics Framework for
CA schools
 *Given near the end of an Algebra II course

**(11) Pre-Calculus Readiness Field-Test
(PR45D20)** *FIELD-TEST*
*Assesses readiness in foundational topics
necessary for success in a pre-calculus course
or other courses at that level after
completing a CA Common Core Integrated

Math 3 or Algebra 2 course as defined in the
Mathematics Framework for CA Schools
*Field-testing should occur in Pre-calculus
or Math Analysis courses
*Replacing the Math Analysis Readiness Field
Test MR45D19

**(12) Mathematical Analysis Readiness
(MR45A08)**
*Assesses readiness in foundational topics
necessary for success in a pre-calculus course
or other courses at that level
*Given near the end of an Algebra II course

(13) Calculus Readiness (CR45A12)
*Assesses readiness in foundational topics
necessary for success in a first year entry-
level calculus course
*Given near the end of a Pre-Calculus course

MDTP tests can also be given in the fall to
diagnose areas that need remediation and again in
the spring to show increased understanding over
time.

An order form for MDTP tests can be placed on
CSUF's MDTP web site
http://mdtp.fullerton.edu.

For more information about the
Mathematics **D**iagnostic **T**esting **P**roject at
California State University, Fullerton please contact
Angela Hoang, MDTP Coordinator, by:
Email: mdtp@fullerton.edu
Phone: (657) 278-7248
Office hours:
Monday – Friday
7:30am – 4:30pm

MASTER OF ARTS IN MATHEMATICS

The Master of Arts in Mathematics provides advanced study for students with one or more of the following interests: a Ph.D. program in mathematics or mathematics education, teaching in high school or community college, or using mathematical analysis in government, business or industry. Three options are offered under the Master of Arts in Mathematics program: (1) Teaching, (2) Applied Mathematics, and (3) Statistics.

The **Teaching Mathematics** option is designed for those individuals who are presently teaching mathematics at the secondary or community college level. Students must have completed courses in linear algebra, modern algebra, and advanced calculus with at least a "B" (3.0) average. In addition, students should have completed a minimum of one year of full-time teaching.

The **Applied Mathematics** option is designed specifically for individuals who are seeking, or who currently hold positions that involve mathematics or quantitative applications. Students must have completed one semester of mathematical probability and one semester of advanced calculus with grade of "B" (3.0) or better in each course.

The **Statistics** program is designed for full-time and part-time students seeking to meet the growing demand for professionals with knowledge and training in data science and quantitative analysis. There are excellent job prospects for graduates of the program in industry, business, and government agencies. The courses must be selected from our regular course offerings at the undergraduate and graduate level.

For more information about the Masters of Arts in Mathematics program at California State University, Fullerton, write to the following coordinators at:

Department of Mathematics
California State University, Fullerton
800 N. State College Blvd.
Fullerton, CA 92831

(1) Teaching - Dr. Armando Martinez-Cruz
(2) Applied Mathematics - Dr. Charles Lee
(3) Statistics - Dr. Mori Jamshidian

Math Masters Degree Programs website:
http://math.fullerton.edu/programs/master-s-degree-programs

ENROLL AS A MATHEMATICS MAJOR AT CALIFORNIA STATE UNIVERSITY, FULLERTON

California State University, Fullerton offers several concentrations as mathematics major:
(1) Pure Mathematics Concentration, for the student planning on pursuing an advanced degree in mathematics.
(2) Applied Mathematics Concentration, for the student planning on a career in business, industry, or government
(3) Probability and Statistics Concentration, for the students planning on a career in an industry using mathematics as an analytic or descriptive tool, e.g. actuarial science.
(4) Teaching Mathematics Concentration, for the student planning to teach at the secondary school level.

For more information about applying at California State University, Fullerton as Mathematics major, write to:

Dr. Alfonso Agnew, Chair
Department of Mathematics
California State University, Fullerton
P.O. Box 6850
Fullerton, CA 92834-6850

Math Department website: http://math.fullerton.edu

PROBLEMS TO SOLVE

1. A box contains red marbles and blue marbles. If you select a handful at random (without replacement), you need at least 5 marbles to be sure at least 1 of them is red and at least 10 to be sure both colors appear among the marbles selected. How many marbles are in the box?

2. Some friends on a hike leave at 9 a.m. and return at 2 p.m. They spend one-quarter of the total distance walking uphill, one-half walking on level ground, and one-quarter walking downhill. If their speed is 4 mph on level ground, 2 mph uphill, and 6 mph downhill, approximately how far did they walk?

3. Benny can eat a super-size box of cereal in 14 days. He and his brother Nathan can eat the same size box of cereal in 10 days. How many days would it take Nathan to finish a box of cereal alone?

4. A ball is dropped onto a floor from a height of 1 meter. Each time the ball hits the floor, it rebounds to half its previous height. (After falling 1 m it rebounds to a height of ½ m. The next time it hits the floor, it rebounds to a height of ¼ m, etc.). How far has the ball traveled when it hits the floor the 40th time?

1. 4 blue and 9 red

2. 120/7 miles; d/8 + d/8 + d/24 = 5.

3. 1/35 box per day; 1/14 + 1/x = 1/10

4.

$$1 + 2\left(\frac{1}{2}\right) + 2\left(\frac{1}{2^2}\right) + \ldots + 2\left(\frac{1}{2^{39}}\right) = 2 + \frac{\left(\frac{1}{2}\right)\left(1 - \left(\frac{1}{2}\right)^{38}\right)}{\frac{1}{2}} = 2 + \left(1 - \left(\frac{1}{2}\right)^{38}\right) = 3 - \left(\frac{1}{2}\right)^{38}$$

5. 9/216; 1x2x1=2 (3 ways); 1x3x1=3 (3 ways); 1x5x1=5 (3 ways)

5. Three fair dice are rolled. What is the probability that the product of the three outcomes is a prime number?

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