Welcome to ATDP

OVER THE PAST 30 YEARS, students have come to our Elementary Division site each summer to pursue Greek Mythology, Human Anatomy, Extra-Terrestrial Trigonometry, and so much more. Whether your family has a long tradition across generations at ATDP or whether you seek to join ATDP for the first time, WELCOME.

Over the decades, our goals have always remained the same: to welcome youth from all backgrounds into an academic community; to help our students to think and understand deeply; to encourage them to rise rapidly through levels of study. We offer courses appropriate to our students’ needs, taught by outstanding public school, private school, and university instructors.

We also endeavor to learn more about academically talented students: how they develop, what they require in order to learn at their optimal pace and to their appropriate depth, and what factors support or impede their social development. Toward that goal, we sometimes ask our students and their families to participate in research studies and we solicit their insights and evaluations.

Our application process reflects our belief that students must be given the opportunity to present their strengths in a variety of ways. By requiring applicants to submit multiple indicators of their academic achievements, we are able to identify and admit a diverse group of the hardest-working, highest-achieving students. As you consider the wide range of classes offered in this year’s catalog, we hope that you will find many that spark your interest.

Thank you for your interest in ATDP.

Sincerely,
Frank C. Worrell
Faculty Director

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Or drop by our office between 9 and 5; we love visitors!
University Hall is located at 2199 Addison St. in Berkeley.
For over 30 years, students have come to UC Berkeley’s Academic Talent Development Program (ATDP) from all over the Bay Area and beyond to take stimulating and challenging academic summer courses among intellectually curious peers. Students completing Kindergarten through 6th grade choose subjects to pursue in greater depth at the Elementary Division, while students completing Grades 7 through 11 take courses in the Secondary Division to enrich and accelerate their knowledge as they prepare for college.

ATDP Elementary Division

ATDP’s Elementary Division, administered through UC Berkeley’s Graduate School of Education, offers a variety of stimulating and challenging classes designed for academic advancement and enrichment. We invite students with exceptional academic promise to a three-week summer session.

The Elementary Division (ED) is open to students who have completed any grade from Kindergarten to 6th grade. This year the ED will be held at Washington School, an elementary school in Point Richmond, nine miles from UC Berkeley.

ATDP is committed to supporting gender, ethnic, and socioeconomic diversity in all of its programs.

Program Objectives

• To offer students an educational opportunity commensurate with their need to know, think, and express.
• To provide content-concentrated courses that encourage students to seek and meet educational challenges as they grow.
• To incorporate broad themes, research activities, and cultural explorations into the academic experience in order to enrich students’ learning experiences.
• To promote continued development of able youngsters toward a full intellectual and social life.
• To prepare students for rigorous study in the Secondary Division.

Our Classes

Our classes unite teachers who want to teach with students who want to learn. While our classes are academic, they are also age-appropriate and activity-based. Each course focuses on one specific subject, allowing students to gain deep knowledge. The inspired curriculum makes learning fun.

Our Faculty

Our instructors, including lead instructors and instructional associates, are carefully chosen from a pool of exceptionally talented public school, private school, and university instructors. In addition to their demonstrated excellence as classroom teachers, they share a serious commitment to rich, deep academic talent development.

Our Students

ATDP’s goal is to select students who enjoy learning, who desire opportunities for intellectual and social enrichment, and who are able to meet the educational challenges of the Program. Students should arrive on time, be ready to learn, and expect to be active and challenged during class. ATDP selects students based on indicators of both academic performance and creative activity, as well as good work habits and citizenship.

I’m not from the San Francisco Bay Area. May I apply?

Yes! ATDP is open to students from the Bay Area and beyond. Students from many countries—including Taiwan, Italy, Kuwait, and Singapore—have attended. However, please note that (1) ATDP is not a residential program and we cannot assist with housing arrangements, and (2) financial aid is limited to students from the immediate Bay Area.
Class Schedule
Classes meet three and a half hours each day and are held four days a week (no classes on Wednesdays). Morning classes are from 8:30 a.m. to noon, and afternoon classes are from 1:00 to 4:30 p.m. Classes include a 30 minute recess period. For estimated maximum homework times, see the grade-level blue banners in the Course Descriptions section of this catalog (pp. 8-14). Students who require full day care may also enroll in ATDP’s Wednesday Explorations program and Cal Adventures (see page 6 for details), which are also held at Washington School.

Attendance
Students should plan on attending daily and always being on time. As the instructors’ expectations are high and classes are active and challenging, students who are late or absent will miss important lessons and instructions. Even one absence will make it difficult to keep pace. Students cannot miss the first two days of class. Students who incur more than two absences for any reason may be dropped from the program and will not be due a tuition refund.

Orientation
An orientation for students and their families will be held on Saturday, July 6, at Washington School. Although not mandatory, it is an opportunity for students and families to meet their child’s teacher and school administrators, see their classroom, and become familiar with the school site before the start of classes.

Parents’ Room
For parents who want to remain at the school site while their children are in class, there will be a parents’ room. Parents will need to sign in at the school office each day.

Open House
Every class will have an Open House for families during part of the last day of class. Guests will see class projects that students have worked hard on during the summer session.

Final Evaluation
After classes end, parents will receive a final evaluation summarizing their child’s academic progress and interests in class. It will review and report on the student’s performance and achievement.

Selecting a Course
Each course will concentrate on one subject area, such as Fluid Physics (for 4th graders) or Writing for Secondary School (for 6th graders). Please see the Course Index listing for all courses on page 7, and read the course descriptions on pp. 8-14.

We generally recommend that parents discuss all the course options with their child and that they choose together the class that best capitalizes on the child’s academic strengths and deep.
interests. The subject chosen should be one that the student will want to learn about for three weeks and explore in depth with hands-on projects and interesting activities.

The Application Process

The application form, instructions, and deadline information can be found on pp. 15-20 or online at atdp.berkeley.edu/applying.

We make every effort to place all qualified students in their first-choice course. However, course enrollment is limited, and there are always more qualified applicants than the program can accommodate. Therefore, it is advantageous for both returning and new students to submit their complete applications early, preferably well before the postmark deadlines. The date an application is complete is an important factor in determining a student’s course placement.

Applications are evaluated in the order they are completed, with first preference in placement given to returning students. Incomplete applications are not considered for placement. The application process is the same for new and returning students. Students must reapply every year, and returning students are not guaranteed automatic readmission or placement in their first choice of course. Returning students must demonstrate continued excellence in academic achievement as well as good work habits and citizenship each year that they re-apply. A student who applied in a previous year and then withdrew without completing a course will be considered a new student for admission purposes. Applications received after the deadline will be considered only on a space-available basis.

Applying Online

To help us save paper and for quicker processing, we encourage you to apply online when possible. To apply online, simply visit our website (atdp.berkeley.edu/apply), create an account, and follow the steps to generate an application. Students who apply online can log in to check the status of their applications at any time. Returning students will be able to update the information on their account (e.g., address, current school) when they begin a new application online. Remember that the online form is only the first piece of the application; the rest of the student’s supporting documents must still be mailed to our office (see pp. 15-16).

Placement Decisions

On April 26, 2013, ATDP will mail all applicants a letter informing them whether they have been accepted. Acceptance packets will include your course placement. Students have until Wednesday, May 29, 2013 to submit their

Placement for Students Completing 6th Grade

New ATDP applicants who will complete 6th grade in June 2013 should apply to the Elementary Division (ED); they are not eligible for the Secondary Division (SD). The ED offers courses that challenge and support them in their academic pursuits (see course descriptions on pp. 13-14).

In most cases, returning ED students who are completing 6th grade should apply again to ED. In general, it is more developmentally appropriate for them to do so because they often do not yet possess the requisite independent study skills for Secondary Division (SD) courses. However, they are also eligible to apply for a few courses in the SD (see box on page 14). Spaces in select six-week SD courses are reserved for exceptional students who are ready to take on the challenge of demanding, rigorous coursework on the UC Berkeley campus. A former ED student who wants to apply to the SD must complete an SD application and will be considered a new SD student for application purposes. Note that the SD new student application deadline is Wednesday, February 27. Since placement in SD is not guaranteed, the SD application should also include acceptable ED course choices as alternatives.
If admission is based on academic preparedness, why is applying early so important?

There are always more qualified applicants than the program can accommodate. When two equally qualified applicants request the same course, the application which was completed first will receive priority.

Continuing to the Secondary Division (SD)

Many students return summer after summer, taking advanced courses they cannot take at their regular schools. ATDP is committed to serving returning students through their elementary, middle, and high school years.

Tuition & Payment

Tuition

Tuition fees for ATDP courses can be found under the individual course descriptions (pp. 8 – 14). Families will be notified of the course tuition fees due when Placement Decisions are mailed on April 26, 2013. Families will have until Wednesday, May 29 to send to ATDP their full tuition (or balance of tuition, if the student was awarded partial financial aid). If a family needs to pay in installments, the first payment of at least $100 must be postmarked by May 29. Full payment is due by Friday, July 26, the last day of classes.

Application Processing Fee

The $50 non-refundable processing fee is separate from tuition and is payable by check only. Checks should be made out to “UC Regents” and mailed to the ATDP office with each completed application. Write the student’s first and last name and “ED” on the check’s memo line.

Sibling Discount

For families sending two or more siblings to the program, a $35 tuition discount is available for each student. For example, if two siblings attended, each student would receive one $35 discount from tuition, for a total family discount of $70. This discount is taken from course tuition only, not from the $50 application processing fee.

Financial Aid

ATDP is a self-supporting program funded by student fees. However, limited need-based financial aid is available to qualified applicants. We are unable to provide financial aid to children of international students or those coming from outside of the immediate San Francisco Bay Area.

Requests for financial aid—complete with supporting documents, tax returns, and schedules—are due by the application deadline of Wednesday, March 27, 2013. We cannot consider applications for financial aid after this deadline. If payment of the non-refundable $50 processing fee poses a financial hardship, attach a signed note of explanation with the tax returns in lieu of the payment.

All admission and placement decisions are made independently of financial aid status. Your application will not be held up pending a financial aid decision. However, we can only evaluate your request for financial aid once we receive all required documents. Financial aid decisions are based on total resources, not only on household income. Applicants who are accepted will be mailed notification of the amount of financial aid on April 26. Awards cover tuition only; they do not cover...
transportation or other expenses. Families who need to pay tuition in installments will have until July 26 to do so. Details will be included in the acceptance letter.

Instructions for applying for financial aid are on pages 15-16.

**Refund Policy**

A parent whose registered student is unable to attend must withdraw the student in writing and may request a tuition refund. Prior to the deadline of Wednesday, June 12, tuition payments are refundable. After June 12, refunds are subject to the ATDP Refund Schedule, which will be included in the student’s acceptance packet.

No refund will be made in the case of a student who fails to attend classes or is dis-enrolled for failure to meet the standards of appropriate behavior, including completion of homework. The $50 processing fee is also nonrefundable.

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**Location & Transportation**

**Location**

Washington School is located at 565 Wine Street in Point Richmond, nine miles northwest of UC Berkeley. It is near the eastern anchorage of the Richmond-San Rafael Bridge.

**Carpool**

For students and their families interested in forming carpools, ATDP provides a list of other students from their area who are also interested in carpooling. Families then contact each other and form their own carpools. Carpool lists are available only to students who have been accepted into the program and who are themselves on the lists. They are available a few weeks before classes begin.

**Driving Directions**

**From San Francisco, Berkeley/Oakland, Highway 24, the Peninsula, and the South Bay:** Take I-80 East to the I-580/Richmond-San Rafael Bridge junction (right lanes), and continue on I-580 West. Follow I-580 to the Canal Blvd. exit. Turn left onto Canal Blvd. Go under the freeway and move to the right hand lane. At the next light, turn right onto Cutting Blvd. Continue on Cutting for one block and turn left onto Wine Street, just after the railroad tracks. Washington School is on the right.

**From Sacramento, Vallejo, Highway 4:** Take I-80 West. Exit at Richmond Parkway. Turn right onto Richmond Parkway and continue for several miles. Richmond Parkway becomes Garrard Blvd. Follow Garrard to Cutting Blvd. Turn left onto Cutting, and then right onto Wine Street. Washington School is on the right.

**From Marin/Sonoma via 580:** From US 101 take I-580 East across the Richmond-San Rafael Bridge. Take the Canal Blvd. exit. Turn right onto Canal Blvd. At the next light turn right onto Cutting Blvd. Continue on Cutting for one block and turn left onto Wine Street, just after the railroad tracks. Washington School is on the right.

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**Q&A**

*What can I find summer housing near UC Berkeley or Washington School?*

ATDP is not a residential program. Unfortunately, we are unable to provide assistance with housing arrangements.

*Where can I find a drastic change in my financial situation is not reflected on my tax return. What should I do?*

Attach a letter explaining your situation, as well as any supporting documents (e.g., unemployment forms), to the tax forms you send in.
**Additional Activities**

**Cal Adventures Sports and Fine Arts Camp**

For a separate fee, Cal Adventures (CA), of the Department of Recreational Sports, offers an on-site sports & fine arts camp for ATDP students. Students enrolled in either morning or afternoon ATDP courses will have the opportunity to participate in sports such as basketball, soccer, dodge ball, and baseball, or in fine arts classes such as dance, arts and crafts, and drama. By combining a half-day ATDP class with a half-day of sports and fine arts camp, participating students will have a full day of activity and balance between academic and recreational enrichment.

Students who enroll in the ATDP morning courses AND enroll in the CA sports camp will spend lunch with Cal Adventures staff who will then lead them in a range of sports & fine art activities until 4:15 PM. Students who enroll in the ATDP afternoon courses AND enroll in the CA sports camp will meet CA Staff at 8:45 am and will participate in sports & fine arts activities, and a supervised lunch until they are escorted to their ATDP courses at 1:00 PM. For additional fees, Cal Adventures offers AM Extended Care from 7:30 am until 8:45 am, and PM Extended Care from 4:30 PM until 5:30 PM. Students in AM Extended Care that have a morning ATDP course will be escorted to their appropriate course at 8:25 am. Students in PM Extended Care that have afternoon ATDP courses will be escorted from their ATDP courses to PM Extended Care at 4:30 PM.

This special program is available only to students enrolled in the Academic Talent Development Program. Cal Adventures, as well as other Cal Youth and Outdoor Programs, also offers a full slate of exciting outdoor youth camps and activities that are open to the community at large. If you would like to receive further information regarding summer activity offerings, please call 510-642-CAMP (2267), or check out their website at: recsports.berkeley.edu/camp.

**Wednesday Explorations**

ATDP’s Wednesday Explorations program offers a range of classes, workshops, and activities for students to take on Wednesday mornings in addition to their regularly scheduled ATDP course. Wednesday Explorations supplement the Elementary Division courses by permitting students to delve further into special topics of current interest or to branch out into new areas. For example, students enrolled in a mathematics class may choose to participate in a writing workshop on Wednesdays. Others may decide to explore mathematics even further. Yet other students may select a chess or a crafts class. The Explorations program guide and enrollment sheet will be sent to students in early May along with their notifications of acceptance into ATDP.

On Wednesday afternoons, students may choose to enroll in the CA Wednesday Sports & Fine Arts program. Any attending ATDP student can enroll in the CA Wednesday Sports & Fine Arts program.

**Research**

As part of a major research university, ATDP is committed to gathering new knowledge that leads to growth and improvement in our understanding of how academically talented students learn and how they can be better served. Toward this goal, we conduct research studies each summer and throughout the school year. Students and families are encouraged to look for opportunities to participate in ATDP research projects. For more information about current and past research studies and how ATDP research is shared with educators and researchers both locally and nationally, please visit our website: atdp.berkeley.edu/research.
### Kindergarten (p. 8)

<table>
<thead>
<tr>
<th>Course</th>
<th>SCHEDULE</th>
<th>NOTE</th>
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<tbody>
<tr>
<td>Fun with Math</td>
<td>AM or PM</td>
<td></td>
</tr>
<tr>
<td>Rocky Seashore</td>
<td>AM or PM</td>
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### First Grade (pp. 8-9)

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Mathmagic!</td>
<td>AM or PM</td>
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<tr>
<td>Earth Sciences: Geel-ology</td>
<td>AM or PM</td>
<td></td>
</tr>
<tr>
<td>Greek Mythology</td>
<td>AM or PM</td>
<td>Kindergartners may apply</td>
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### Second Grade (pp. 9-10)

<table>
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<tr>
<th>Course</th>
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<td>Jazz Up Your Writing</td>
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<tr>
<td>Exploring Light and Vision</td>
<td>AM or PM</td>
<td></td>
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<tr>
<td>Math for the Real World</td>
<td>AM or PM</td>
<td></td>
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<tr>
<td>Rainforests</td>
<td>AM or PM</td>
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### Third Grade (pp. 10-11)

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Authors’ Corner</td>
<td>AM or PM</td>
<td></td>
</tr>
<tr>
<td>Human Anatomy</td>
<td>AM or PM</td>
<td></td>
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<tr>
<td>Those Wonderful Simple Machines!</td>
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### Fourth Grade (pp. 11-12)

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>The Artists’ Studio</td>
<td>PM only</td>
<td>3rd Graders may apply</td>
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<tr>
<td>The Invisible Living World</td>
<td>AM or PM</td>
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</tr>
<tr>
<td>The Art and Science of Math</td>
<td>AM or PM</td>
<td>3rd Graders may apply</td>
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<tr>
<td>Fluid Physics</td>
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<tr>
<td>Egyptology</td>
<td>AM only</td>
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### Fifth Grade (p. 13)

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<th>Course</th>
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<tr>
<td>The Art of Persuasion</td>
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<td>4th Graders may apply</td>
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<tr>
<td>Lab Chemistry</td>
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<tr>
<td>Creating Music, Movies &amp; Games with Computers</td>
<td>AM or PM</td>
<td></td>
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<tr>
<td>The Physics of Motion and Force</td>
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### Sixth Grade (p. 14)

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Human Anatomy &amp; Physiology</td>
<td>AM or PM</td>
<td></td>
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<tr>
<td>Extra-Terrestrial Trigonometry</td>
<td>AM or PM</td>
<td>5th Graders may apply</td>
</tr>
<tr>
<td>Writing for Secondary School</td>
<td>AM or PM</td>
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Grades listed refer to the grade a student will have completed in June 2013.

*AM courses meet from 8:30-12:00, and PM courses meet from 1:00 - 4:30.

** Exceptionally well-prepared students may apply to courses in a higher grade level where noted.
For students completing

**Kindergarten**

**Fun with Math**

Welcome, Math Adventurers! In this course, we will explore math concepts and develop mathematical thinking skills through fun projects and enjoyable activities incorporating art, literature, music, and movement. Using graphing activities and geometric art projects, we will investigate the relationships between math and our everyday lives. Also, we will develop pre-algebraic thinking skills by predicting, extending, and creating patterns with shapes, numbers, movements, and more. Working in cooperative groups and as a class, we will put on our problem-solving hats and use our critical thinking skills to solve logic problems. In order to deepen our understanding of more traditional math, we won’t be doing typical pencil-and-paper problems but instead will learn by having fun with math!

**ED3301** 8:30 - 12:00  Grace Sui  $650
**ED3302** 1:00 - 4:30  Grace Sui

**Rocky Seashore**

In this course, students will explore how plants and animals in California’s tide pools depend on each other to live. We will study different tidal pool relationships using methods of investigation in both earth and life sciences. Using the scientific methods of observation, hypothesis testing, experimentation, and conclusion, we will further our learning in such subjects as water chemistry and animal anatomy. The inner and outer workings of the tide pool plants and animals will be brought to life with different projects in drama, arts and crafts, and daily journals. Other activities include a squid dissection and a marine touch-tank presentation.

**ED3303** 8:30 - 12:00  Staff  $700
**ED3304** 1:00 - 4:30  Staff

*Exceptionally well-prepared kindergarteners may also apply for course ED3315/3316: Greek Mythology (see page 9).*

For students completing

**First Grade**

**Mathmagic!**

Grab your hat and wand and join in on the fun! In Mathmagic, students will develop their reasoning skills and conceptual understanding, as well as strengthen their abilities in basic operations and procedural skills. The class will explore the topics of Data Analysis, Algebra, and Geometry, through games, magic tricks, team tasks, and art projects. Also, the class will read enticing storybooks from around the world as catalysts for intriguing mathematical investigations covering topics such as, binary numbers, the Fibonacci sequence, googols, and more!

**ED3311** 8:30 - 12:00  H. Margulis-Kessel  $650
**ED3312** 1:00 - 4:30  H. Margulis-Kessel

**Earth Sciences: Geel-ology**

Earthquakes, volcanoes, massive shifting plates, rocks and minerals, and the powerful forces of erosion—we will investigate these topics and more in this geology class. As budding geologists, we will examine the structure of our planet and the processes that shape it as well as learn how to classify rocks. Working individually, in pairs and in small groups, we will simulate earthquakes, volcanoes, fossil creation and erosional forces. In addition
For students completing Second Grade

Greek Mythology
Enter the exciting and interesting world of Greek myths. In this course, we will study a variety of myths about the heroes, tricksters, monsters, gods, and goddesses of Ancient Greece. We will engage in a range of hands-on and integrated activities in the curricular areas of art, history, science, and language arts. We will respond to stories through class discussions, small group projects, and role playing. In a busy workshop atmosphere, we will explore, question, and extrapolate the meanings these ancient myths have for us in modern times. Parents will be encouraged to assist in responding to myths in a homework journal. Finally, in the spirit of Ancient Greece, students will come to Open House dressed as their favorite mythical figures, entertain guests with role plays of some of the myths we have studied, and feast on the delights of the gods and goddesses of Mount Olympus.

Jazz Up Your Writing
In this course, we will explore the intersection of language, poetry, and music. Our musical journey begins with a focus on the rhythm of language. We will learn about using rhetorical devices such as personification, onomatopoeia, and metaphors to improve our descriptive writing and to analyze themes. Moving on to the interlude, we will work independently and as a group to develop original songs, which will be set to acoustic guitar accompaniment. The crescendo of our composition will include working together to create a class song book, which will showcase our songs, creative writing, and use of literary devices. Our finale will include publication and performance of our original compositions, both musical and written. Come join the band!

Exploring Light and Vision
When you look in a mirror, why does it seem like you’re inside the mirror? How do optical illusions play tricks on us? What exactly is light, anyway? In this course, we will investigate the basic properties of light and how our minds perceive visual information. Through hands-on activities we will study depth perception, the persistence of vision, reflection and refraction, parts of the eye, light waves, and many other topics. We will also build kaleidoscopes, periscopes, and projectors. Throughout the course, our focus will be on exploring the relationship between light, vision, and how we perceive the world.
Math for the Real World

What does mathematics have to do with “the real world” anyway? Math is everywhere around us, but it’s easy to lose sight of this fact in the confines of the classroom. In this class we take a fresh look at math, focusing on geometry and probability. Students will work individually and in groups, with emphasis on the importance of communication and collaboration in solving complex problems. Students will apply the concepts they learn to the real world challenges of creating pleasing artistic designs, sturdy architectural structures, and fun learning games, thus deepening their appreciation of the beauty, excitement, and practicality of mathematics.

Rainforests

Explore the wonders of the tropical rainforest in this course created for young scientists. Together, we will investigate different aspects of rainforests: their plants and animals, their people, and their products. We will grow rainforest habitats in small groups and keep science journals detailing our observations through drawing and writing. We will research animals and write and create art projects about them. Also, we will discover just how many rainforest products we use in our daily lives and use many of them in recipes to make tasty treats. Throughout this course, the emphasis will be on the essential nature of the world's rainforests: why we need the rainforests on our earth and what we can do to preserve them.

Authors’ Corner

Authors’ Corner is a workshop for students who love to write. We write about what is important to us in imaginative fiction, true stories about our lives, and poetry. Using freewriting, we practice following our thoughts to discover what ideas we have in our minds. As we read stories aloud we identify how the authors create vivid characters and engaging plots. Students complete long fictional stories, using what they have learned about plot structure, specific sensory details, metaphors and similes, and dialogue. Field trips to a “haunted house”, cafe, and the beach allow students to draw inspiration from their experiences in the world.

Human Anatomy

Our study of anatomy will consist of hands-on student projects—including students’ constructions of life-sized models of themselves from the inside out—and dissections of animal bones, skin, muscles, hearts, lungs, livers, kidneys, and eyes (all fresh specimens from a local inspected meat-packing house). We will also study some related chemistry, art, mythology (e.g., Achilles’ heel), and history. Parent volunteers are encouraged and welcome to participate in our class.
Those Wonderful Simple Machines!

In this course, we will learn about simple machines: levers, pulleys, wheels and axles, inclined planes, wedges, and screws. We will study their origins, usefulness, and relationships to other machines. We will have hands-on opportunities with simple machines, draw pictures, and make our own models. While learning that gadgets are based upon the principles of simple machines, we will try to “stump” one another with unusual gadgets. We will learn about Ruben Lucius “Rube” Goldberg and his famous gadget cartoon pictures. As homework each of us will design and build a simple working model of his or her own Rube-Goldberg-inspired gadget. After working a little at home every day in order to plan, assemble, and complete our final course projects by the last day, we will then present them for our Open House.

Exceptionally well-prepared third graders may also apply for courses
ED3240: The Artists’ Studio (see below) or
ED3343/3344: The Art and Science of Math (see page 12).

For students completing
Fourth Grade

Homework: up to 25 minutes per day

The Artists’ Studio

Using creativity and imagination, we will delve into the world of lines, colors, shapes, and textures, crafting our own works of art and learning to think critically about the art we see. We will explore and build upon the basic concepts for each artistic element, gradually progressing to 3D models by the end of each week. Daily projects and artist workshops will foster both individual creativity and more structured learning. We will also study several famous artists, who will help us understand how to use basic elements to create masterpieces.

The Invisible Living World

In this course, students become scientists exploring the amazing diversity and complexity of the invisible living world, using microscopes to make discoveries that would be impossible with the human eye alone. The course will parallel the evolutionary development of living things, with the first week focused on single-celled organisms, the second on colonial and microscopic multicellular organisms, and the third on specialized cells of macroscopic multicellular organisms such as humans. Students will discover intricate organization within seemingly simple life forms through direct observation, labeled pictures and diagrams, readings and videos. They will create their own microbe ecosphere on Petri plates, by sampling doorknobs, the soles of shoes, floors and other microbe-rich habitats. Students will use 21st century technology to observe organisms and cells, making an illustrated journal of their collections, like biologists from centuries past.
The Art and Science of Math

Mathematicians aren’t the only ones to solve problems in their work. All sorts of other interesting occupations like architects, artists, scientists, business people, and engineers are problem solvers too who need math to do their jobs. In this class, we will explore a variety of exciting problem solving opportunities that come up in the real world, and where math is a useful tool. We’ll be building stable structures out of unusual materials, designing a water supply system, product testing different slime formulas, and creating beautifully elaborate patterns. Students will work both collaboratively and independently to exercise their mental muscles and design solutions to complicated problems. Who knows what fascinating problem is just around the corner?

ED3347 8:30 - 12:00 B. Brandow & J. Che
ED3348 1:00 - 4:30 B. Brandow & J. Che

Fluid Physics

In this class, we will discover the amazing world of liquids and gases. By studying density and Archimedes’ Principle, we will then find out how and why concrete boats and hot air balloons float. We will design and build our own model concrete boats and compete in The Great Concrete Boat Race. We will also make our own hot-air balloons. By studying surface tension, we will learn how water spiders can live on the surface of a pond and why bubbles act bubbly. We will investigate the shapes of bubbles and produce waves on a bubble. Also, we will study Bernoulli’s Principle and investigate how air flows around objects like cars and airplane wings.

ED3347 8:30 - 12:00 B. Brandow & J. Che
ED3348 1:00 - 4:30 B. Brandow & J. Che

Egyptology

The Valley of the Kings and Beyond

Let’s travel back in time and enter the exciting world of Ancient Egypt. Going beyond mummies, pyramids, and the tombs of the Valley of the Kings, Egyptology will also explore many other facets of Ancient Egyptian civilization. We will unearth Egyptian culture through their architecture, art, food, games, and daily life, as well as their reliance on the Nile River and their mysterious fascination with death and the afterlife. Activities will include creating our own personal cartouche using hieroglyphs and learning about Egyptian myths and historic individuals. We will transform our classroom with our projects, designing an exhibition and visitor walk-through for our open house. Come join the adventure, build your own museum-like exhibit, and unlock the mysteries of Ancient Egypt!

ED3349 8:30 - 12:00 Vanessa Sinai

Exceptionally well-prepared fourth graders may also apply for course
ED3351/3352: The Art of Persuasion (see page 13).
Let your voice be heard! In this course we will work to develop our thoughts and ideas about the topics that matter most to you. We will learn to craft compelling arguments that can really make a difference, in the forms of persuasive essays, letters to the editor, debate, and more! Each day, we will practice writing in both formal and informal styles, critique writing samples, and work towards three published pieces for our class book. We will practice the various stages of the writing process as we pre-write, draft, revise, and edit our arguments, both with our peers and by ourselves. By the end of the three weeks, you’ll be amazed at how sophisticated and convincing your writing and speaking can be!

Lab Chemistry

In this lab science course, we will observe chemical and physical changes, examine the properties of substances, hypothesize and investigate experimental outcomes, do independent research on elements of our choice, and utilize laboratory journals to record notes and observations. Students will develop their observation and analytical skills by experimentally discovering the amount of oxygen in air, testing gases for specific properties, making polymers, growing crystals, testing toothpaste for desirable properties, and performing a forensics experiment to determine the identity of various substances. Using freezing point depression, students will make ice cream and understand the chemistry behind it. As a culminating activity, students plan and perform a chemistry “magic” show.

Creating Music, Movies & Games with Computers

In this course, we will create pictures, animations, music, and interactive games. That’s a lot to accomplish, so instead of starting with markers and paint, we will be using a computer to help out. Much like the animators and computer programmers do at Pixar, you will learn to create pictures, animations, and music on the computer. You can even use these skills to make your own game on the computer! You will take all of your projects home on a USB drive so that you can easily show your friends and family. The software that we will use, Scratch, is free, so you can continue your projects after the class. The course is designed for students without programming experience and students with less than 20 hours of Scratch experience are encouraged to enroll.
Note: With parental permission, some students may be videotaped.

The Physics of Motion and Force

We will learn about Physics by exploring Newton’s Three Laws of Motion. Course highlights will include: the effects of constant acceleration, culminating with students shooting marshmallows from paper blowguns, friction and the construction of a hovercraft large enough to ride on, Newton’s Third Law as exemplified by vinegar and baking soda powered rocket cars and, of course, lots of flying marbles.

Exceptionally well-prepared fifth graders may also apply for course ED3363/3364: Extra-Terrestrial Trigonometry (see page 14).
Extra-Terrestrial Trigonometry

How did people figure out how to find terrestrial and extra-terrestrial distances before computers and satellites? How are two-dimensional maps of a three-dimensional world made? How does an airplane or ship navigate? In this class, we will discover how people from around the world, for centuries and today, have used trigonometry to think about these ideas and more. We will study some basic algebra and beautiful geometry to investigate relationships in the terrestrial and extra-terrestrial realms; we’ll understand how circles, triangles and waves are all related. Though we will be influenced by questions about the world and space, the focus of the course is on developing mathematics: making conjectures, proving theorems, applying those theorems to the motivating questions, and asking more questions. This is not an aliens or a science course.

Writing for Secondary School

This class will focus on the writing process: pre-writing, drafting, editing, and revising. We will practice expository writing (analysis, persuasion, and interpretation) as well as prose writing (description, narration, and modeling). While learning various writing styles, we will discover the importance of voice and point-of-view in writing. Each of us will keep a journal and will read a variety of stories, essays, and explanatory materials.

Human Physiology

This class is for any student who has a body and is curious to know more about how it works! The course is organized around the organ systems that make up the human body. What happens to your food when you eat it? How strong are your muscles, and how quickly can they move? Why do your brain and eyes do crazy things when they’re confused? And, of course, there will be body parts everywhere! We’ll get our hands dirty with dissections of real hearts, brains, and eyeballs. You’ll never look at your body the same way again!

Additional Option for Returning Sixth Graders

Returning ED students who will be completing sixth grade in June 2013 are also eligible to apply for the following Secondary Division (SD) courses on the Berkeley Campus:

- 3300 The Writing Process (any section)
- 3333 Elements of Web Design
- 3340 Foundations of Algebra

Spaces in these six-week courses are reserved for exceptional returning students who are ready for the challenge of demanding, rigorous coursework. The Director will determine admission and placement.

Students who decide to apply to SD must complete an SD application, available on our website at atdp.berkeley.edu. Former ED students applying to SD are considered new students for application purposes. The SD application deadline is Wed., February 27. Apply early!

Since placement in SD is not guaranteed for sixth graders, a sixth grade SD application should also include acceptable ED course choices as alternatives.
To apply to ATDP’s 2013 Summer Session, please compile the items listed below. Items numbered 1 through 6 are required for a complete application. Include federal tax documentation (item 7) if you wish to apply for financial aid.

Once you have the required materials, gather them into a single package and mail them to:

University of California, Berkeley
Academic Talent Development Program
Graduate School of Education
70 University Hall
Berkeley, CA 94720-1160

Only complete applications will be evaluated. Do not send the application in parts. The application deadlines for the Elementary Division are Wednesday, March 13 for returning students and Wednesday, March 27 for new students. Applications received after these deadlines will be considered only on a space-available basis.

1 Application Information Form

- Please complete the online Application Information Form at atdp.berkeley.edu/apply. Registering with our website allows you to check on the status of your application(s).
- Once you have submitted the online form, print and sign the Statement of Commitment and mail it with the rest of your application documents.
- If you are unable to access the form online, complete the Application Information Form on pp. 17-18.

2 Teacher Recommendation Form

- Give the Teacher Recommendation Form on page 19 along with an envelope to a current teacher in an academic subject (e.g., mathematics, science, language arts).
- Your teacher should complete the form, seal it in the envelope, sign his or her name across the sealed flap, and then return the envelope to you.

3 Copy of Report Card

- Submit a legible photocopy of your first trimester (or most recent) report card for the current (12-’13) school year.
- Only submit final grades, not progress reports. If you need assistance obtaining a copy, ask in your school office.

4 Copy of Test Scores

- Include a legible photocopy of your most recent California Standards Test (CST) or other standardized achievement test scores (e.g., Stanford Achievement Test, Iowa Test of Basic Skills, or other school-administered test that gives national percentile scores in math and reading). The test must have been taken within the past three years (i.e., 2012, 2011, or 2010).
- If you have not taken a standardized achievement test in the past three years, include a signed note with a school stamp from an administrative staff person at your school indicating so.
- Students completing Grade 2 or below may skip this item.

5 Academic Product or Essay

Please submit a written product from one of the two options below:

- Submit a piece of original written work that shows your own thought. This work should be one of which you are especially proud and which was completed since September 2012. While the work may have been done for a school assignment, it need not have been. The product you submit need not be in the same subject area to which you are applying. Examples of appropriate products include English essays, social studies reports, and science project write-ups. Examples of unacceptable products include drawings not accompanied by original writing, spelling tests, arithmetic exercises, fill-in-the-blank worksheets, and multiple choice tests. While you may submit photos, videos, tapes, or drawings in support of your work, they may not be submitted in place of original writing. We cannot return your work, so please submit clear photocopies of your originals.

- If your essay is longer than 1 page, please include a photocopy of your essay with your application.

- Please write your own answer to the question listed for your grade level. Students currently in Kindergarten or Grade 1 may write their answers or dictate their answers to an older person.

For students in Kindergarten to Grade 1:
- In your opinion, what is the most important quality for a friend to have? (You may dictate your essay.)

For students in Grade 2 to Grade 4:
- What spectacular ability or superpower would you like to have? What would you do with it? Would it be a good or bad thing if everyone had that ability, and why?

For students in Grade 5 to Grade 6:
- If you could have a conversation with any person (living or dead) that you consider significant, who would it be and what would you talk about?

6 Processing Fee

- Include a $50 processing fee, payable by check or money order. This fee is non-refundable. It covers only the cost of application processing and does not apply toward tuition or materials fees.
- Make check or money order payable to “UC Regents.” Write “ED” and the student’s first and last name on the memo line.

7 Financial Aid

- To apply for financial aid, please submit both parents’ most recent Federal Tax Return AND ALL SCHEDULES (i.e., the complete tax return) for each applicant.
- For preliminary consideration and to avoid delay in submitting your application, you may submit your 2011 return if your 2012 return is not yet available. We will ask for your 2012 return at a later date, if required.
- Do not send original documents.
- If there are special circumstances, submit a letter of explanation and photocopies of any supporting documents (e.g., unemployment forms).
- If the $50 processing fee poses a financial...
APPLICATION INSTRUCTIONS

hardship, submit a letter of explanation and supporting documents listed above.

- Send your complete application materials no later than Wednesday, March 27. We will not consider financial aid requests for applications that are completed after the deadline.

- An invoice for fees due and the amount of financial aid awarded (if any) will be included in the student’s acceptance packet, which will be mailed on Friday, April 26, 2013.

APPLICATION COMPLETENESS CHECKLIST

Make sure you have attached all required documents in the order below!

- Processing fee ($50 check, payable to UC Regents) on top of other documents
  OR
  Signed note of explanation if this poses a financial hardship
- Statement of Commitment printed and signed, if applying online
  OR
  Paper Application Information Form with signed Statement of Commitment, if not applying online
- Envelope containing your Teacher Recommendation Form, which teacher signature over the sealed flap
- Photocopy of most recent report card
- Photocopy of achievement test scores or signed, stamped note from school administrative staff indicating none are available*
- Academic product or essay
- Federal tax return and all schedules, if applying for need-based financial aid

*Applicants in grade 2 or below may skip this item

APPLICATION POSTMARK DEADLINES

Returning student deadline
WEDNESDAY, MARCH 13, 2013
For those who have previously been accepted into and attended the Elementary Division

New student deadline
WEDNESDAY, MARCH 27, 2013
For those who have not attended the Elementary Division before

Note that we accept late applications strictly on a space-available basis.

Placement decisions are mailed
Friday, April 26, 2013
ATDP informs all applicants whether they have been accepted. Acceptance packets include the Notification of Attendance or Withdrawal, which must be returned to ATDP within a month.
APPLICATION INFORMATION FORM

Please review the application instructions on pp. 15 – 16 before completing this form. In order to have a complete application, you must submit all required application documents indicated in these instructions.

Please print all information in black or blue ink. Alternatively, you may also complete and submit this information online at atdp.berkeley.edu/apply.

I BASIC INFORMATION

I COURSE SELECTION

• List one or more course choices below, in order of preference. If your first choice is full or your application is not competitive for it, we will consider your alternates in order to schedule you.
• Each selection you list represents a committed interest in enrolling in that course; do not list alternates if you would prefer not to attend rather than take an alternate course.

II STATEMENT OF INTEREST

For each selected course above, tell us specifically why you would like to take it. If you have any related interests or experience, let us know. (You may dictate your response to an older person, if necessary.)

Calendar

...
**IV. BIOGRAPHICAL DATA**

In order to help us develop a greater base of knowledge about our student population, please complete the questions below.

*Your responses in this section will not affect your admission status or course placement.*

1. Please indicate your ethnic background by checking ALL that apply.
   - [ ] American Indian/Alaskan Native
   - [ ] Latino/Other Hispanic-American
   - [ ] African-American/Black
   - [ ] Pacific Islander
   - [ ] Mexican/Mexican-American/Chicano
   - [ ] White/Caucasian (Middle Eastern)
   - [ ] Oriental/Japanese
   - [ ] Pilipino/Filipino-American
   - [ ] Chinese/Chinese-American
   - [ ] Vietnamese/Thai/Other Asian
   - [ ] Other (please indicate): ________________

2. Which language(s) did you speak first?
   - [ ] English
   - [ ] English and another language (specify): __________________________
   - [ ] Another language (specify): __________________________

3. In what country were you born?
   - [ ] USA
   - [ ] In another country (specify): __________________________
   - and I came to the USA in the year ___________.

4. Please indicate the highest level of education completed by each parent by writing the corresponding letter in each space.
   - A. Elementary school
   - B. Some high school
   - C. High school diploma or equivalent
   - D. Business or trade school
   - E. Some college
   - F. Associate or two-year degree
   - G. Bachelor’s or four-year degree
   - H. Some graduate or professional school
   - I. Graduate or professional degree

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<th>Occupation of Father (Parent/Guardian)</th>
<th>Occupation of Mother (Parent/Guardian)</th>
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<tr>
<td>A. Elementary school</td>
<td>B. Elementary school</td>
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<td>B. Some high school</td>
<td>C. High school diploma or equivalent</td>
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<td>C. High school diploma or equivalent</td>
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<td>D. Business or trade school</td>
<td>E. Some college</td>
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<td>F. Associate or two-year degree</td>
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<td>G. Bachelor’s or four-year degree</td>
<td>H. Some graduate or professional school</td>
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<td>H. Some graduate or professional school</td>
<td>I. Graduate or professional degree</td>
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5. Please indicate the approximate income of your parents last year.
   - [ ] Less than $10,000
   - [ ] $10,000 - $25,000
   - [ ] $25,000 - $50,000
   - [ ] $50,000 - $75,000
   - [ ] $75,000 - $100,000
   - [ ] $100,000 - $150,000
   - [ ] $150,000 - $200,000
   - [ ] Over $200,000

6. Returning Student postmark deadline: ________________
   New Applicant postmark deadline: ________________
Dear Teacher,

You are receiving this form because your student is applying to the Academic Talent Development Program (ATDP), a UC Berkeley summer program which offers challenging classes for highly motivated students. In order to apply, each student must submit a recommendation form from a current teacher in an academic subject. Visit atdp.berkeley.edu for more information about the program.

Please:
(1) Complete the basic information below and both brief parts on the reverse of this form.
(2) Seal the form in an envelope* and sign your name across the seal on the envelope's flap.
(3) Return the sealed envelope to the student.

For your reference, the Elementary Division (ED) application postmark deadlines are Wednesday, March 13 for returning students and Wednesday, March 27 for new students.

Make any inquiries at atdpoffice@berkeley.edu or 510-642-8308. Your insights and recommendations are carefully considered. Thank you very much for your assistance and consideration.

Student and Teacher Information (to be completed by recommending teacher)

<table>
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<tr>
<th>Student's Full Name</th>
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<th>Student's School</th>
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<th>Teacher's Name</th>
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<th>Teacher's Signature</th>
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<th>Teacher's E-mail</th>
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Grade level (K-6) & academic course in which you teach the student

Has this student been selected for the Gifted and Talented (GATE) Program?
(This question is for research purposes only. It is not used for selection for ATDP)

- [ ] Yes
- [ ] No
- [ ] No program at this school
- [ ] Don't know

* The student has been instructed to provide an envelope. Any envelope is acceptable.
Part I: Behavior Inventory
Please rate the student on the following nine behaviors associated with academic talent and creativity. Check “NA” if there has not been an opportunity to observe this behavior; check “Rarely” if you have observed this behavior once or twice; check “Sometimes” if you have observed this behavior more than once or twice but not regularly; and check “Frequently” if you have observed this behavior regularly.

1. Engages in a variety of imaginative activities such as making up games or stories.
2. Is very observant and attends to detail in the surrounding environment.
3. Is self-directed and works well alone.
4. Demonstrates teamwork in class activities.
5. Expresses a keen sense of humor in age-appropriate ways (e.g., jokes, puns).
6. Thinks about a task or problem before attempting to solve it.
7. Focuses on activities for extended periods of time without becoming bored.
8. Elaborates with unusual detail in stories or drawings (or other products).
9. Takes a systematic approach to tasks or problems.
10. Enjoys the challenge of new or complex activities.
11. Is very curious about new ideas or things in the environment.
12. Continues to work on a task and does not give up when it becomes difficult.
13. Asks many questions in the context of different activities.
14. Demonstrates leadership in classroom, school, or community activities.

Part II: Comments
Please provide examples or additional information about these fourteen behaviors that you feel will help us better assess this student’s application.
The University of California, in compliance with Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Age Discrimination Act of 1975, does not discriminate on the basis of race, color, national origin, sex, handicap, or age in any of its policies, procedures, or practices; nor does the University discriminate on the basis of sexual orientation. This nondiscrimination policy covers admission and access to, and treatment and employment in, University programs and activities, including but not limited to, academic admissions, financial aid, educational services, and student employment.
ACADEMIC TALENT DEVELOPMENT PROGRAM
UNIVERSITY OF CALIFORNIA, BERKELEY
GRADUATE SCHOOL OF EDUCATION
70 UNIVERSITY HALL
BERKELEY, CA 94720-1160

510-642-8308

2013 CALENDAR

POSTMARK DEADLINES
WED., MARCH 13
WED., MARCH 27

NEW ED APPLICANTS
Turn in applications as early as possible!

PLACEMENT DECISIONS
FRI., APRIL 26

ATDP MAIL’S NOTIFICATION OF ACCEPTANCE
Acceptance packets include class schedule, textbook and
Explorations information, and invoice for fees due and
financial aid award.

TUITION DEADLINE
WED., MAY 29

STUDENTS RETURN NOTIFICATION OF
ATTENDANCE OR WITHDRAWAL
Postmark deadline for payment of full tuition less, or
tuition balance for families awarded financial aid

REFUND DEADLINE
WED., JUNE 12

LAST DAY TO REQUEST A FULL REFUND

ORIENTATION
SAT., JULY 6

ORIENTATION FOR STUDENTS & PARENTS

CLASSES
MON., JULY 8

CLASSES BEGIN AT
WASHINGTON SCHOOL

FRI., JULY 26

OPEN HOUSE:
Classrooms open for visiting
parents and family

CLASSES END
Last day to complete payment
for those paying in full/summer