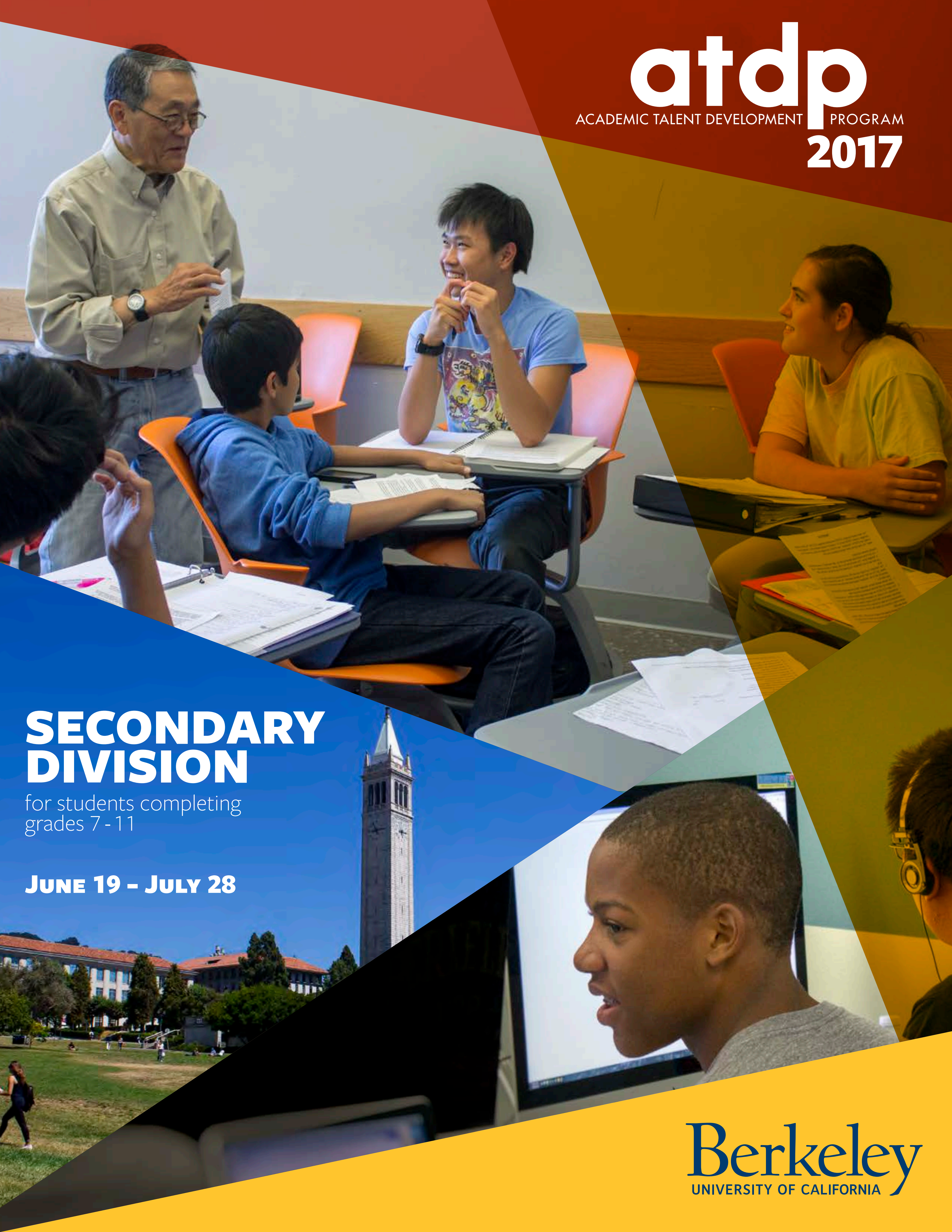
atdp

ACADEMIC TALENT DEVELOPMENT PROGRAM

2017



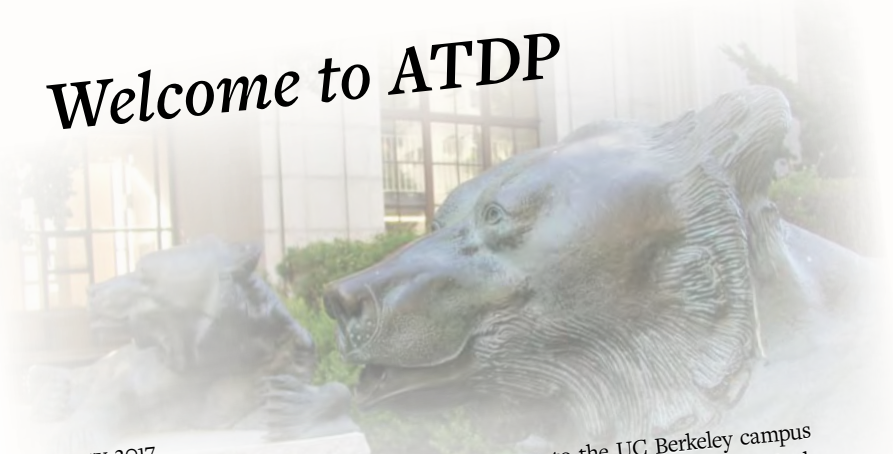
SECONDARY DIVISION

for students completing grades 7 - 11

June 19 – July 28

Berkeley
UNIVERSITY OF CALIFORNIA

Welcome to ATDP



January 2017

OVER THE PAST 36 YEARS, students have come to the UC Berkeley campus each summer to pursue architecture, computer programming, law, precalculus, biotechnology, 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 and private school instructors, as well as university researchers and industry professionals.

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,

Lisa Kala
Program Director

Frank C. Worrell
Faculty Director

atdp | SD

PROGRAM DATES

June 19 to July 28, 2017

See back cover for important dates & deadlines

LOCATION

UC Berkeley campus

WEEKLY SCHEDULE

5-unit classes: 2 days per week
10-unit classes: 3 days per week

DAILY SCHEDULE

Morning classes: 8:30 a.m. to noon
Afternoon classes: 1:00 to 4:30 p.m.

FEES

Application processing fee: $50
5-unit courses: $650 - $800
10-unit courses: $950 - $1100
AP Biology: $1500

DISCOUNTS

Sibling discount: $35 per sibling attending
NEW Referral discount: $50 per referral
Limited need-based financial aid is available
See p. 17 for details

Contacting ATDP

EMAIL	atdpoffice@berkeley.edu
WEB	atdp.berkeley.edu
FACEBOOK	facebook.com/ucb.atdp
PHONE	510-642-8308
FAX	510-642-0510
MAIL	University of California, Berkeley Academic Talent Development Program Graduate School of Education 70 University Hall Berkeley, CA 94720-1160

Or drop by our office between 9:30 and 5; we welcome visitors!

University Hall is located at 2199 Addison St. in Berkeley.

ATDP's **Secondary Division**, administered through UC Berkeley's *Graduate School of Education*, offers challenging courses to highly motivated students who have completed Grades 7-11

(and are entering Grades 8-12). Students are invited to attend the program on the basis of exceptional academic talent.

Classes are held in buildings across the UC Berkeley campus, with many scheduled at the Graduate School of Education's Tolman Hall in the northwest corner of campus.

ATDP's course offerings cover a wide variety of disciplines. Instruction is fast-paced, and expectations are high—each six-week course is designed either to cover a semester's worth (5 units, or 7.5 school days per class session) or a year's worth (10 units, or 10 school days per class session) of material. The number of hours of homework per ATDP class session is commensurate with the number of school days that the class covers and is provided below each course description on pp. 5-15.

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

WHO ARE ATDP STUDENTS?

ATDP's goal is to select students who will benefit from the challenging course offerings and will succeed in this fast-paced program. Students are eligible to attend ATDP's Secondary Division once they complete Grade 7 and can return each summer through the completion of Grade 11. Students become ineligible for ATDP when they complete Grade 12.

On average, admitted students have scored in the advanced range on the California Standards Test (CST) or above the 90th percentile on a nationally standardized achievement test in both mathematics and English Language Arts or reading. Additionally, ATDP students tend to earn an overall academic grade point average (GPA) of at least 3.5 on an unweighted 4-point scale. Please remember that these are not hard-and-fast selection criteria, but rather general guidelines. Designation as "gifted" at your home school is not required for admission to ATDP. Students with marks of "unsatisfactory" or "needs improvement" in conduct or citizenship are not a good fit for the program.

LEARNING OUTCOMES

ATDP students...

- rise rapidly through levels of study;
- approach challenges with persistence and flexibility;
- pursue mastery in their chosen disciplines;
- participate actively in an academic community of similarly motivated peers; and
- continue to apply the skills they develop outside the classroom.

SEE ALSO:

ELEMENTARY DIVISION

For students completing **Kindergarten** through **Grade 6**, ATDP offers an exciting three-week program at Washington School in **Point Richmond** (9 miles NW of UC Berkeley).

July 10 - July 28, 2017

atdp.berkeley.edu/ed

All classes meet Mondays, Tuesdays, Thursdays and Fridays. Extended care options available.

WHO ARE ATDP FACULTY?

Our faculty include exceptionally talented public and private school instructors, as well as university researchers and industry professionals. In addition to their excellence as classroom instructors, they share a serious commitment to the education of gifted and talented youth. The low teacher-to-student ratio, as well as the counseling and administrative staff support, ensure instruction of the highest quality.

Inside

COURSES

Unlike many other summer programs, ATDP offers courses that focus on acquisition of deep knowledge in a single topic. Secondary Division students are invited to immerse themselves and gain expertise in a subject that interests them. Some ATDP classes are designed to accelerate students through high school curricula. While ATDP does not provide credit for its courses, many high schools accept our recommendation of credit and will list ATDP classes on their transcripts.

About ATDP Courses

SCHEDULE & SIZE

ATDP offers courses that meet either two or three days each week. Most run the full six weeks of the Secondary Division (June 19 - July 28), though a small number of 5-unit classes run on unique four-week schedules. Classes generally have a cap of 20 to 24 students.

Units	Meetings per week	Length	School workload equivalent
5	2 (varies)	6 wks.	1 semester (90 days)
5	3 (MWF)	4 wks.	1 semester (90 days)
10	3 (MWF)	6 wks.	2 semesters (180 days)

WORKLOAD

An ATDP course requires a serious time commitment. Students should expect to spend between three and ten hours preparing for each class meeting. The average number of hours of homework to expect per class meeting is listed below each course description (pp. 6-15) and new students especially should expect to be spending time on homework that is at the upper end of the range provided.

CREDIT

ATDP ***recommends*** credit, but only the student's school may ***grant*** credit for an ATDP course. Only courses that have been placed by the high school on the student's high school transcript can be used to meet college entrance requirements. We mail a grade report to a student's school upon the student's request and only when credit is recommended. Any report that does not carry a credit recommendation is mailed only to the student's home. (See "Final Evaluation," p. 19.)

ATDP recommends high school credit for students who have demonstrated mastery of a course with a grade of A or B. For grades of C and below, we assign a Pass or No Pass mark with no credit recommendation. An ATDP course can be considered for honors-level credit. Advanced Placement courses at ATDP are identified as such in their titles and should also carry appropriate credit.

Please check with your principal or guidance counselor before applying if credit is a concern.

EXPLORATIONS

In addition to its regularly scheduled courses, ATDP offers through its Explorations program a selection of optional classes, workshops, and trips. These activities enrich Secondary Division students' summer experience with opportunities to learn new skills, to pursue career-oriented interests, and to visit interesting places. Last year's Explorations included series in SAT preparation, mobile app development, and film analysis, as well as single-day options such as CPR training and special tours of campus departments.

Explorations meet on various weekdays, often for a half-day. They vary in length and meet between one and six times. The Explorations program guide and enrollment form will be sent to students along with their notification of acceptance into ATDP. Only students currently enrolled in ATDP courses may attend Explorations.

New This Year

Our 2017 Secondary Division offerings feature a selection of brand new classes as well as some unique courses returning from hiatus. If you're interested in mathematics, we have a greatly expanded variety of enrichment courses this year, listed on pp. 10-11.

NEW COURSES

These courses have never been offered at ATDP before, and demand for these spots may be very high. As applications are evaluated in the order completed, we strongly recommend applying early!

First-Year French
For the first time, ATDP is offering an accelerated class covering the entire first year of French! ► *Languages, page 8*

Mathematical Constructions with Art & Computers
For students who want to use their mastery of geometry to create art, both by hand and with computers, this course offers students a creative way to deepen their mathematical skills. ► *Mathematics, page 11*

Applied Mathematics: Understanding Higher Math through Physics and Tinkering
A blend of math and natural science, this course introduces students to calculus concepts through physical demonstrations. ► *Mathematics, page 11*

Minds, Brains, and Computers
Our introductory philosophy course has been reimagined to focus on the relationship between man and machine. ► *Social Sciences, page 12*

RETURNING COURSES

These Secondary Division courses are back, and may include revisions and updated curricula for this summer:

Fourth-Year Japanese
Students studying Japanese at the advanced level have the opportunity to complete their mastery. ► *Languages, page 8*

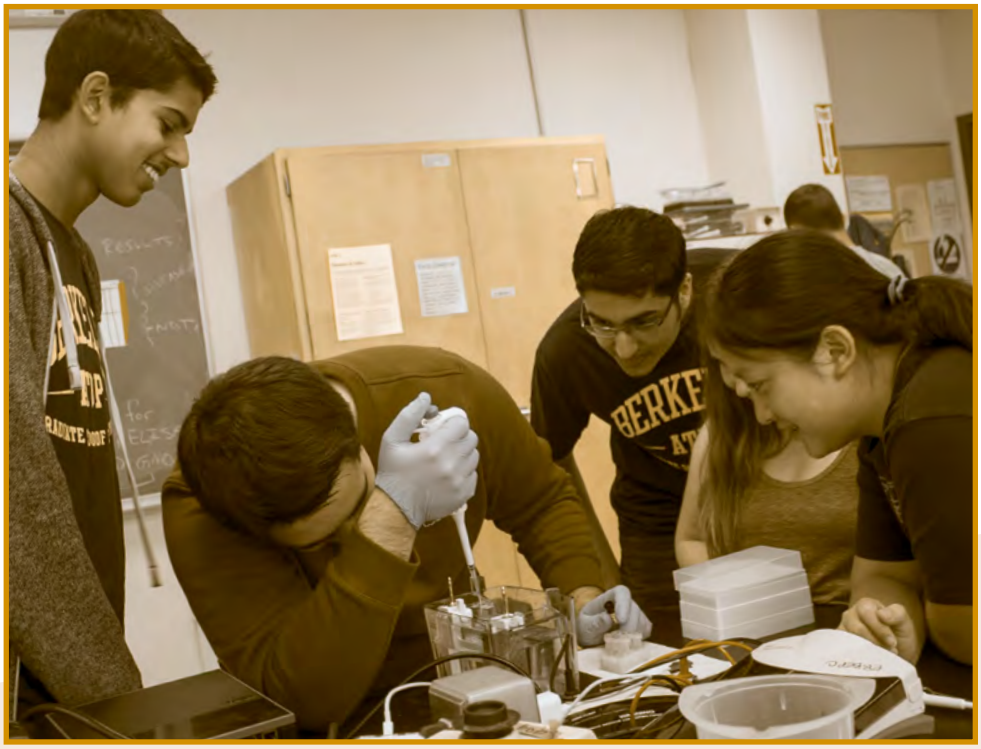
Probability & Statistics
For students who want to know the math behind the headlines, learn how pollsters, researchers, and policymakers sift through data and crunch the numbers—and how they can mislead! ► *Mathematics, page 10*

ON HIATUS

Not all Secondary Division classes are offered every summer. If you've noticed a course offering that's disappeared from our catalog, let us know if you'd be interested in seeing it return! The following courses are not offered this year, but may return in the future:

Second-Year Japanese

AP Calculus AB



NEW DISCOUNT: FAMILY REFERRAL PROGRAM

There's a new way to save on tuition fees this summer!

Families that have attended ATDP in the past have the opportunity to refer students from a family new to ATDP. The new student and returning student will each receive a $50 discount if they both attend during the summer. The returning student must apply online by the February 15 returning student postmark deadline to generate their unique referral code. The new student must apply by the March 1 new student/financial aid postmark deadline and provide the referral code on their online or paper application form. Both students must enroll during the same summer to receive the discount.

See atdp.berkeley.edu/referral for complete details and FAQs.

NEW REQUIREMENT: IMMUNIZATION RECORDS

University of California policy requires all students participating in campus programs to provide proof of immunization. ATDP's application requirements have not changed, but families of students who are admitted to the program should be prepared to provide immunization information for each student when they confirm their course placement. Updated information and instructions will arrive with students' acceptance packets.

Selecting a Course

With nearly 40 different courses to choose from, it is sometimes difficult for students to find the one course that is just right for them! We encourage you to read through the course descriptions (pp. 6-15) carefully and identify courses that interest you and for which you are academically prepared. It is important to note course prerequisites and grade level requirements when you are selecting your course choices, as not all courses are open to all students. In addition to selecting the course that you are most interested in taking, you may select up to three other courses as alternatives.

CHOOSING A WRITING COURSE

Applicants sometimes have trouble figuring out which writing course is most appropriate for their skill level, age, and grade. After carefully reading the course descriptions, list your course selection and alternate choices on your application. Based on your academic product, grade, age, and Letter of Interest, we will place you in the most appropriate class.

CHOOSING A MATH COURSE

Accelerated mathematics courses have rigid prerequisites and a special application process. These courses are marked with the ⏩ symbol next to their descriptions on pages 10-11. See page 11 for details.

ADVANCED PLACEMENT

Courses designated as "Advanced Placement" are especially rigorous 10-unit courses designed to prepare students for the AP exam in the subsequent spring. Take special note of these courses' prerequisites and anticipated homework time per class meeting.

APPLYING FOR TWO COURSES

Only students with strong academic backgrounds are allowed to take two courses, and new Secondary Division students (including those who previously attended ATDP's Elementary Division) are less likely to be allowed to enroll in two courses. Remember that expectations are high in every ATDP course, and many former students have reported that taking two courses was more time-consuming than they expected. Add together the two courses' Estimated Weekly Hours listed on page 5 for an approximate time commitment.

If you are interested in enrolling in two courses, you must petition to do so in your Letter of Interest that accompanies your application. The petition should explain your summer plan: clearly identify your desired schedule of two courses, making sure their meeting times do not conflict, as well as any alternatives (single courses or other two-course combinations) in order of preference. Also describe how you plan to manage time commitments outside of class meetings. Successful petitions tend to be for two 5-unit courses, or one 5-unit and one 10-unit course.

Courses FAQ

Will my school accept ATDP's recommendation of credit?

Many—but not all—high schools have accepted our recommendation in previous years. As school and district policies vary, make sure to check with your school's administration first if you hope to receive credit for an ATDP course.

Do ATDP courses count towards college entrance requirements?

If your school has accepted ATDP's recommendation of credit, it should appear on your high school transcript and will count towards college entrance requirements.

Is the time listed for homework accurate, or is that just how long it takes other students who aren't as smart as I am?

The homework hours listed represent the average time to complete homework (*not* including studying) reported by the previous year's classes. It is safe to expect that the amount of homework you do will be somewhere within the range given.

I have only one course choice. Do I still have to list alternate classes on my application?

Each course you request represents a commitment on your part. If you would rather not come to the program than attend a course other than your first choice, you should request your first choice only.

Will I improve my chances of being placed in my first choice class if I don't list alternates?

No. We always start by attempting to place a student in his or her first choice and only look at the alternates if the class is filled or if a student's application is not competitive for his or her first choice.

Course Index

See details for each course and course section in their respective descriptions on pp. 6-15. Updates can be found at atdp.berkeley.edu/sd/catalog.

DEPT.	COURSE NAME	REQUIREMENTS [1]	EWH [2]	SCHEDULE [3]	TOTAL FEE
WRITING & LITERATURE	The Writing Process	6 7 8 9 10 11	16	MTh, AM/PM	$650
	Reading for Creative Writing	6 7 8 9 10 11	14	TuF, PM only	$650
	Writing for High School	6 7 8 9 10 11	18	MTh, TuF; AM/PM	$650
	Analytical Writing	6 7 8 9 10 11	18	TuF, AM/PM	$650
	Advanced Creative Writing	6 7 8 9 10 11	14	MTh, PM only	$650
	Writing for College	6 7 8 9 10 11	18	TuF, AM only	$650
	Advanced Reading & Writing†	6 7 8 9 10 11	22	MWF, PM only†	$650
FINE ARTS	Fundamentals of Art	6 7 8 9 10 11	14	TuTh, AM only	$700
	Architectural Design	6 7 8 9 10 11	22	MWF, AM only	$1000
LANGUAGES	First-Year French **NEW**	6 7 8 9 10 11	22	MWF, AM only	$950
	First-Year Japanese	6 7 8 9 10 11	22	MWF, AM only	$950
	Third-Year Japanese	SEE PREREQS	22	MWF, PM only	$950
	Fourth-Year Japanese **RETURNING**	SEE PREREQS	22	MWF, PM only	$950
COMPUTER SCIENCE	Elements of Web Design (TIC)	6 7 8 9 10 11	26	MWF, AM only	$1100
	Introduction to Programming (Python)	6 7 8 9 10 11	16	TuTh, AM/PM	$800
	Programming in Java	SEE PREREQS	28	MWF, AM/PM	$1100
	Web Development (AIC)	SEE PREREQS	14	TuTh, AM only	$800
MATHEMATICS	Foundations of Algebra	6 7 8 9 10 11	14	TuTh, PM only	$650
	Algebra I*	SEE PREREQS*	30	MWF, PM only	$1000
	Probability & Statistics **RETURNING**	SEE PREREQS	16	TuTh, AM only	$650
	Introduction to Geometric Thinking	SEE PREREQS	16	TuTh, AM only	$650
	Geometry*	SEE PREREQS*	40	MWF, PM only	$1000
	Mathematical Constructions **NEW**	SEE PREREQS	16	TuF, PM only	$650
	Algebra II/Trigonometry*	SEE PREREQS*	40	MWF, AM only	$1000
	Applied Mathematics **NEW**	SEE PREREQS	16	MWF, AM only†	$650
	Precalculus*	SEE PREREQS*	40	MWF, AM only	$1000
SOCIAL SCIENCES	Public Speaking (grades 6-8) **	6 7 8 9 10 11	14	MTh, AM/PM	$650
	Public Speaking (grades 9-11) **	6 7 8 9 10 11	14	TuF, PM only	$650
	Social Psychology	6 7 8 9 10 11	14	TuTh, PM only	$650
	The Practice of Law	6 7 8 9 10 11	14	MTh, AM/PM	$650
	Minds, Brains, and Computers **NEW**	6 7 8 9 10 11	14	TuF, PM only	$650
	Advanced Placement Psychology	6 7 8 9 10 11	35	MWF, AM only	$950
	Entrepreneurship	6 7 8 9 10 11	16	TuTh, AM only	$650
	Advanced Placement Economics	6 7 8 9 10 11	35	MWF, PM only	$950
NATURAL SCIENCES	Introduction to Biotechnology	6 7 8 9 10 11	18	TuTh, AM/PM	$800
	Introduction to Engineering	6 7 8 9 10 11	14	TuTh, PM only	$800
	Introduction to Chemistry	6 7 8 9 10 11	17	TuF, AM/PM	$800
	Introduction to Astronomy & Astrophysics†	SEE PREREQS	30	MWF, PM only†	$800
	Advanced Biotechnology†	SEE PREREQS	30	MWF, AM/PM†	$800
	Advanced Placement Biology‡	SEE PREREQS	44	MWF, AM **&** PM‡	$1500
	Cognitive Neuroscience	SEE PREREQS	26	TuTh, AM/PM	$650

[1] = Open to this grade level

= **Recommended** grade level

SEE PREREQS = Denotes a course with requirements in addition to or instead of a grade level requirement. See course descriptions on pp. 6-15.

[2] **Estimated Weekly Hours** indicates the approximate time commitment ***per week***, including class sessions, homework, and study.

[3] AM sessions meet 8:30 AM to 12:00 noon.

PM sessions meet 1:00 PM to 4:30 PM.

Each course is offered in one or more sections, listed on the following pages, as below (instructors listed as "Staff" are yet to be determined):

Course Title

Number | Weekly Schedule | Meeting Time | Instructor

* This is an accelerated math course with additional restrictions. Read its course description carefully. To apply, follow the instructions on page 11.

** *Public Speaking* has sections divided by grade level. Section SD3750.1 & 50.2 meet on MTh and are open to students completing grades 6, 7, or 8 only. Section SD3750.4 meets on TuF PM and is open to students completing grades 9, 10, or 11 only.

† These 5-unit courses have a compressed four-week schedule instead of the standard six-week Secondary Division schedule. See the individual course descriptions for the exact dates.

‡ *AP Biology* is an all-day course, with sessions starting at 8:30 AM and ending at 4:30 PM.

WRITING & LITERATURE

The Writing Process

SD3700.1	M & Th	8:30 - 12:00	Staff
SD3700.2	M & Th	1:00 - 4:30	Staff

This course is meant for students who are mastering their middle school writing skills and transitioning to high school. Students will investigate the purposes for which authors write and will become purposeful readers and writers. Lessons and activities will focus on the process of writing: pre-writing, drafting, editing, and revising. Students will work in editing groups, help each other revise drafts, and study the qualities of good writing. They will learn techniques for crafting well-written sentences, logical paragraphs, and coherent essays. Students will read, study, and discuss writing styles, and they will practice what they have learned in numerous writing assignments.

Grade Requirement: For students completing grade 7 or 8 in June 2017.

Homework per class meeting: 2-5 hours

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

Reading for Creative Writing

SD3702	Tu & F	1:00 - 4:30	Sarah Schwartz

This class will focus on reading critically and passionately and on fostering creative writing skills. Students will read poetry, short stories and other works of literature, and write responses to the readings. They will visualize the imagery and explore the themes of literature in relation to their own lives. For more inspiration, class activities may include drawing and art, campus explorations, and a visit to a local museum. Students will share their insights into the mind of the author and seek to understand their own writing processes. Through improvisation, class discussion, and writing exercises, students will learn to identify and experiment with various narrative techniques. They will develop a portfolio of their own creative writing and will also write one analytic essay that will reflect their growing expertise as readers and writers.

Grade Requirement: For students completing Grade 7 or 8 in June 2017.

Homework per class meeting: 2-4 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

Writing for High School

SD3703.1	M & Th	8:30 - 12:00	Staff
SD3703.2	M & Th	1:00 - 4:30	Gabriella Wyatt
SD3703.3	Tu & F	8:30 - 12:00	Staff

This class will provide a vehicle for students to sharpen their high school level reading and writing skills. Through reading, class discussions, and group work, students will learn how to develop arguments to answer complex questions and then support their original and insightful claims with sufficient and significant evidence. Further, they will analyze their selected evidence so as to prove their claims in each paragraph and in the essay overall. Emphasis will be on learning to refine thinking and on improving writing through careful outlining, reflection on a writing rubric, revision, and peer feedback. Writing will be balanced evenly between collaborative paragraphs or paragraph parts and individual writing leading to more complete works.

Grade Requirement: For students completing Grade 8 or 9 in June 2017.

Homework per class meeting: 3-6 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

Analytical Writing

SD3704.1	Tu & F	8:30 - 12:00	Elizabeth Scherman
SD3704.2	Tu & F	1:00 - 4:30	Jonathan Shelley

This course, taught at the advanced high school level, will allow students to strengthen their analytical reading and writing skills. Students will practice reading with care and will hold meaningful discussions about the texts they study. They will learn to produce well-organized, well-written, well-developed, and intellectually complex essays. They will perform the stages of writing from clarification of the assignment to final revision, working on grammar, composition, and editing.

Grade Requirement: For students completing Grade 9 or 10 in June 2017.

Homework per class meeting: 3-6 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

Advanced Creative Writing

SD3706	M & Th	1:00 - 4:30	Alex Franklin

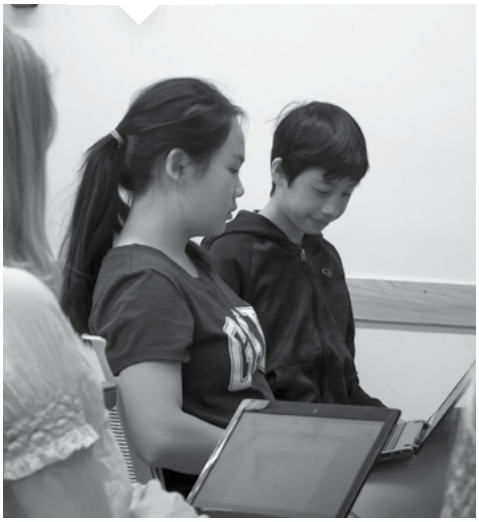
This course will focus on purposeful reading and developing advanced creative writing skills. Students will read short stories, poems, and a couple of novels, discuss the form and purpose of meta-fiction, and revise their writing through class workshops before presenting their finished work. Students will revise and craft tone so that they can assure a reader, "This narrative came from a living, breathing, thinking being." In their clever meta-narratives, students will also learn to be mindful not to trample on the purpose, message or content of their stories.

Grade Requirement: For students completing Grade 9 and up in June 2017.

Homework per class meeting: 2-4 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)



Writing for College

SD3707 Tu & F 8:30 - 12:00 Aileen Liu

Students in this course will prepare for college-level work by applying their critical reading, thinking, and writing skills to a range of topics. Students in this course should already have mastered writing for high school. They will develop reading, research, and writing skills necessary to succeed beyond high school, and they will practice writing in the different registers and genres of academic fields at the college level. Students will challenge themselves to synthesize information from a variety of sources in order to arrive at thoughtful and original conclusions. Through focused revision and editing, students will be able to craft clear, purposeful contributions to their fields of study.

Grade Requirement: For students completing Grade 10 or 11 in June 2017.

Homework per class meeting: 3-6 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

Ready for another language?
See our courses in **French** and **Japanese** on p. 8.

Advanced Reading & Writing

SD3708 MWF 1:00 - 4:30 Christina Büchmann

NOTE: This course has a **four-week** schedule. It starts **June 19** and ends **July 14**.

This is a course for people who enjoy literature and analytic discussion so much that they want to become superb at these activities. Students will be expected to tackle complex works of literature with relish—texts will include fiction and poems, leading up to a Shakespeare play. Students will work not only at their analytic essay writing, but also at leading discussion. We will emphasize close reading and precise writing, and from this students' own writing will emerge more fluidly with greater clarity and impact. The course is both preparation for reading literature in college and for doing well in AP English literature courses.

Grade Requirement: For students completing Grade 10 or 11 in June 2017.

Homework per class meeting: 2-5 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

FINE ARTS

Fundamentals of Art

SD3711 Tu & Th 8:30 - 12:00 Annie Yi

This course is a comprehensive, in-depth study of the fundamentals of the arts. Students will develop observational and drawing skills through the use of a variety of media and subject matter. We will be covering a range of techniques adaptable to any student level, using various media including pencil, ink, charcoal, pastel, watercolors, paint, collage and printmaking. Students will explore their imagination and creativity through the investigation of themselves in self-reflections and use the basic concepts of art as knowledge to develop their ideas. Students will create multiple projects that reflect the arts as a part of their lives, viewing art in perspectives and problem solving through expression to create art as a lifelong skill. This hands-on studio class involves group and individual instruction to encourage multiple ideas and creativity.

Grade Requirement: Open to all qualified SD students.

Homework per class meeting: 2-4 hrs.

Recommended credit: 5 units

Tuition: $700 ($570 base tuition + $130 facilities fee)

Architectural Design

SD3715 M W F 8:30 - 12:00 Staff

This course explores the built environment and introduces students to the architectural profession. The class focuses primarily on the formal principles of architectural design by examining examples from lectures and by visiting buildings on and off campus. Students will also develop an understanding of concepts in two-dimensional composition, furniture design, landscape architecture, and urban planning. Students will express their ideas in scaled models and drawings. The course consists of several week-long projects, including architectural drawings of existing buildings, abstract sculptural design, furniture design, and designing new landscape and architectural structures. While working individually and in teams, students will be able to explore their creative potential and develop their ability to work effectively in groups. Knowing how to draw or build models is not a prerequisite.

Grade Requirement: For students completing Grade 8 and up in June 2017.

Homework per class meeting: 3-5 hrs.

Recommended credit: 10 units

Tuition: $1000 ($850 base tuition + $150 facilities fee)

LANGUAGES

First-Year French

SD3721 M W F 8:30 - 12:00 Staff

NEW COURSE: This course will provide an introduction to French and Francophone cultures through speaking, listening, reading, and writing in French. It will be taught through language immersion and students will be speaking French from day one. Emphasis will be placed on developing student ability to create and to communicate with basic French structures and vocabulary. Linguistic and cultural mastery will be developed through oral exercises, individual and collaborative reports, class discussions, films, and music. This course is equivalent to one year of high school French.

Grade Requirement: Open to all qualified SD students.

Homework per class meeting: 2-6 hrs.

Recommended credit: 10 units

Tuition: $950 ($850 base tuition + $100 facilities fee)

First-Year Japanese

SD3723 M W F 8:30 - 12:00 Junko Hosoi

This course is based on a fun, playful, and effective approach to learning Japanese. This method is a synthesis of many innovative teaching techniques developed to help accelerate students' language learning. The two major components of this course are: (1) acquisition of basic communication skills of elementary Japanese and (2) learning hiragana and katakana syllabaries as well as some kanji characters. The language is taught multi-modally: lots of physical movement, use of pictures and graphics, conversation practices, storytelling, and some story creating. Students also learn about modern Japanese life. This course is equivalent to one year of high school Japanese.

Grade Requirement: Open to all qualified SD students.

Homework per class meeting: 2-6 hrs.

Recommended credit: 10 units

Tuition: $950 ($850 base tuition + $100 facilities fee)

Third-Year Japanese

SD3726 M W F 1:00 - 4:30 Staff

In addition to furthering the development of listening and speaking skills, this course will also review grammar for advanced reading and writing. Students will add to their vocabulary of kanji and will study literary works. Cultural presentations will provide additional opportunities to learn about Japanese life and to practice language skills and conversation. This course covers the full content of third-year high school Japanese.

This course is held concurrently with *Fourth-Year Japanese*.

Prerequisite: Completion of *Second-Year Japanese* or permission of the Director.

Grade Requirement: Open to all qualified SD students.

Homework per class meeting: 2-6 hrs.

Recommended credit: 10 units

Tuition: $950 ($850 base tuition + $100 facilities fee)

Fourth-Year Japanese

SD3728 M W F 1:00 - 4:30 Staff

Fourth-Year Japanese will continue to build and develop language skills in conversation and writing. Speaking activities will explore the formal, informal, humble, and honorific forms. Literacy and vocabulary will focus on further mastery and acquisition of new kanji. As in preceding courses in the sequence, activities will revolve around lectures, discussions, skits, and literature. Students will also learn more about Japanese culture through films, games, and history. Class will be conducted primarily in Japanese. This course covers the full content of fourth-year high school Japanese.

This course is held concurrently with *Third-Year Japanese*.

Prerequisite: Completion of *Third-Year Japanese* or permission of the Director.

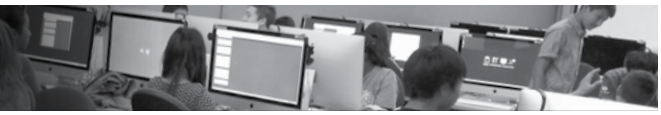
Grade Requirement: Open to all qualified SD students.

Homework per class meeting: 2-6 hrs.

Recommended credit: 10 units

Tuition: $950 ($850 base tuition + $100 facilities fee)

COMPUTER SCIENCE



Access outside of class to a desktop or laptop computer (i.e. not a tablet or Chromebook) and to the Internet is required to complete homework for all computer science courses. If possible, students are encouraged to bring their laptop to class so they can work on the same device at all times.

Elements of Web Design
The Internet Classroom

SD3733	M W F	8:30 - 12:00	Samuel Pierce

In this course, students will learn to combine computer code with graphic design to create their own websites. No programming experience is necessary; students begin with the concept of syntax and character encoding. They will become familiar with computer networks and file systems as they build standards-based web pages from the ground up using HTML5 and CSS. Students should be prepared to flex their creative muscles: coding topics will be balanced with a discussion of good visual design and layout, including digital graphics production and manipulation using Adobe Photoshop. They will also explore non-technical topics such as anonymity, intellectual property & copyright, social media, and yes: memes. This course provides the necessary foundation for students who want to continue on to contemporary web/mobile app development.

Grade Requirement: Open to all qualified SD students.

Homework per class meeting: 2-6 hrs.

Recommended credit: 10 units

Tuition: $1100 ($900 base tuition + $200 facilities fee)

Introduction to Programming
Solving Problems with Python

SD3734.1	Tu & Th	8:30 - 12:00	Danny Tan
SD3734.2	Tu & Th	1:00 - 4:30	Danny Tan
SD3734.4	M & Th	1:00 - 4:30	Staff

This beginning programming course will introduce students to the central ideas of computer science using the language Python. No programming experience is necessary. This course touches on many of the main ideas in AP Computer Science Principles, such as abstraction, algorithms, and the societal impact of computing. We will learn about common control structures, including logic statements and loops, as well as simple data structures. The course presents students with common programming problems, includes computational and critical thinking skills, and engages students in the creative aspects of the field.

Prerequisite: None; completion of *Algebra I* is recommended.

Grade Requirement: Open to all qualified SD students.

Homework per class meeting: 2-5 hrs.

Recommended credit: 5 units

Tuition: $800 ($600 base tuition + $200 facilities fee)

Programming in Java

SD3735.1	M W F	8:30 - 12:00	Anh Nguyen
SD3735.2	M W F	1:00 - 4:30	Anh Nguyen

This course will introduce students to object-oriented programming in Java. Programming experience is helpful but not necessary; students applying for this course must already feel comfortable with file systems, rules of syntax, and mathematical thinking, particularly the ideas of variables and functions. In the first part of the course, we will review procedural scripting basics before learning about object-oriented structures like classes. We will learn how to process data structures like arrays and lists with searching and sorting algorithms to create powerful programs. During the second part of the course, students will demonstrate their creative skills through various projects that explore advanced applications, such as artificial intelligence or graphic user interfaces.

Prerequisite: Completion of *Algebra I* required. Completion of an introductory computer science course recommended.

Grade Requirement: Open to all qualified SD students.

Homework per class meeting: 2-6 hrs.

Recommended credit: 10 units

Tuition: $1100 ($900 base tuition + $200 facilities fee)

Web Development
The Advanced Internet Classroom

SD3737	Tu & Th	8:30 - 12:00	S McDonald & S Pierce

Want to build your own online store, mobile-friendly chatroom, or even your own Facebook? This course will teach students how to build complex, dynamic websites using PHP and jQuery. This course expands on the concepts in *Elements of Web Design* and computer programming classes. Students will become familiar with several new languages and the basics of database design. Particular attention will be paid to the reading and comprehension of programming APIs, allowing students to continue to grow as independent computer scientists.

Prerequisite: Completion of *Elements of Web Design* and a programming class (such as *Programming in Java*), or a passing score on a placement test, or permission of the Director.

Grade Requirement: Open to all qualified SD students.

Homework per class meeting: 2-4 hrs.

Recommended credit: 5 units

Tuition: $800 ($600 base tuition + $200 facilities fee)

Interested in computer graphics?

Take your geometry knowledge to the next step in **Mathematical Constructions** on p. 11.

MATHEMATICS

Foundations of Algebra

SD3740 Tu & Th 1:00 - 4:30 Claudia Benedetti

This course is designed to strengthen and develop skills that are essential for students who will be entering an Algebra I course in the fall. We will study strategies for problem solving, patterns and functions, probability, graphing, equations, properties, exponents and geometric thinking. During the six-week course, we will identify individual student curricular needs and then design instruction to challenge all students in the class. Students will approach problem-solving using a scientific approach: defining the problem, making predictions and hypotheses, testing assertions, using algebra to generalize from specifics, making conclusions and supporting them with logical argument and proof. Working with the Common Core Curriculum, proofs will entail writing the process of the solution in complete form, thus demonstrating students' mastery of the curriculum. This class is for students who have *not* taken Algebra I.

Grade Requirement: For students completing Grade 7 or 8 in June 2017.

Homework per class meeting: 2-4 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

Algebra I

SD3741 M W F 1:00 - 4:30 Staff

This six-week course covers a full year of Algebra I and is aligned with Common Core standards for high school Algebra classes. Topics to be covered include patterns and graphs; writing and solving equations; numeric, geometric, and algebraic ratios; slopes and rates of change; linear functions and graphing; factoring quadratics and other polynomials; systems of linear equations and inequalities; radicals and exponents; rational and irrational numbers; and graphing quadratic functions and finding roots. Students frequently spend eight hours outside of class preparing for each class session. The atmosphere of the class is cooperative; the emphasis is on working together.

Prerequisite: Completion of *Pre-Algebra*, grade of A in current math class, Teacher Review Form completed by current math instructor, and passing score on placement test.

Homework per class meeting: 4-8 hrs.

Recommended credit: 10 units

Tuition: $1000 ($850 base tuition + $150 facilities fee)

Probability & Statistics

SD3742 Tu & Th 8:30 - 12:00 Staff

Statistics is perhaps the most widely applicable branch of mathematics. In this class, students will work with real world data and have the opportunity to learn probability and statistics, with an emphasis on their application to everyday life and how to avoid being misled by them. Students will get an overview of inferential statistics and probability, including correlation, regression analysis, applied normal curve approximations, intersection, union and dependence of two events, binomial distribution, conditional probability and sampling.

Prerequisite: Completion of *Algebra I or Integrated Math I.*

Homework per class meeting: 2-5 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

Introduction to Geometric Thinking

SD3743 Tu & Th 8:30 - 12:00 Staff

This course is designed for students who want to preview selected topics from high school Geometry. The approach is informal, with hands-on activities that will allow students to explore geometric concepts. Through a variety of techniques such as cooperative learning, the discovery method, and model-making, students will learn about the major concepts of Euclidean geometry. Students will work on a number of special projects such as tessellations. This course will give students the confidence and background to perform well in the regular or honors Geometry courses at their schools in the fall.

Prerequisite: Completion of *Algebra I*.

Homework per class meeting: 2-5 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

Geometry

SD3744 M W F 1:00 - 4:30 Staff

This fast-paced course completes all topics of first-year Geometry: points, lines, planes, and angles; deductive reasoning; parallel lines and planes; congruent triangles; quadrilaterals; inequalities in geometry; similar polygons; right triangles; circles; constructions and loci; areas of plane figures; areas and volumes of solids; coordinate geometry; transformations; and an introduction to trigonometry. Because the course covers a full year of Geometry, students spend at least eight hours outside of class preparing for each class session.

Prerequisite: Completion of *Algebra I*, grade of A in current math class, Teacher Review Form completed by current math instructor, and passing score on placement test.

Homework per class meeting: 6-10 hrs.

Recommended credit: 10 units

Tuition: $1000 ($850 base tuition + $150 facilities fee)

Applying for an accelerated math course

If you are interested in taking an accelerated mathematics course (i.e., *Algebra I, Geometry, Algebra II/Trigonometry, Precalculus:* marked with the ⏩ symbol), please note the following admissions requirements:

- You must have a grade of A in your current mathematics class, and a strong academic profile overall;
- You cannot repeat a math course you have already taken;
- Your *Teacher Review Form* must be completed by your current mathematics teacher; and,
- You must take and pass the diagnostic examination given on the afternoon of Saturday, May 20, 2017.

As noted above, acceptance and placement into all accelerated mathematics courses is contingent upon successful passing of a written diagnostic test. If you are unable to take the test on May 20, the acceptance letter will provide instructions on scheduling a date for a makeup test. Results will be mailed and posted online the week after testing.

Students who do not pass their placement test remain admitted to the program. We will work with these students to find a more suitable course placement. Please note that these additional admissions requirements pertain to students applying for accelerated mathematics courses only; they do not pertain to 5-unit math courses. Students in *Foundations of Algebra* ***do*** need to take the diagnostic test on May 20, but their score will have no effect on their final placement.

The diagnostic test is for placement purposes only. Families may be informed of a total percentage score as it relates to placement criteria, but detailed results will not be available.

Mathematical Constructions
With Art & Computers

SD3746 Tu & F 1:00 - 4:30 Toby Jaw

NEW COURSE: This course explores the relationship between geometry, algebra, art, and technology. Starting with the fundamental geometric constructions using a compass and straightedge, students then expand on these concepts to create their own designs both by hand and by using The Geometer's Sketchpad® software to create geometry-based artwork such as spirals, fractals, perspective drawings, and even animations. Students will review and apply many algebraic solving techniques as well as geometry principles in order to make deeper connections with the constructions that they do. This will give students the opportunity to reinforce algebraic skills and geometric conceptual understanding that are necessary for success in Algebra 2. Students will also focus on articulating math concepts precisely, an important practice that is greatly emphasized by the Common Core.

Prerequisite: Completion of *Geometry* or *Integrated Math II*.

Homework per class meeting: 2-5 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

Algebra II/Trigonometry ⏩

SD3747 M W F 8:30 - 12:00 Georgina Mountain

This extremely fast-paced course completes all topics of second-year Algebra with trigonometry: linear functions and relations; systems of linear equations and inequalities; quadratic functions and complex numbers; exponential and logarithmic functions; rational and irrational algebraic functions; quadratic relations and systems; higher degree functions and polynomials; sequences and series; graphing techniques; circular and trigonometric functions; and use of mathematical models for applications and problem solving. Because the course covers a full year of material, students spend a great deal of time outside class preparing for each class session.

Prerequisite: Completion of *Geometry*, grade of A in current math class, Teacher Review Form completed by current math instructor, and passing score on placement test.

Homework per class meeting: 6-10 hrs.

Recommended credit: 10 units

Tuition: $1000 ($850 base tuition + $150 facilities fee)

Applied Mathematics
Understanding Higher Math through Physics and Tinkering

SD3748 M W F 8:30 - 12:00 Kaushik Basu

NOTE: This course has a **four-week** schedule. It starts **July 3** and ends **July 28**.

NEW COURSE: Have you wondered how much gas you would save if the highway speed limit were dropped to 55 miles per hour? Would you imagine that dropping coffee filters may have some bearing to that question? This course will explore mathematical descriptions of objects in the real world through hands on projects. Students will build interesting toys to 'prove' mathematical theorems. We will learn to use approximations effectively, and discover how these ideas lead to the study of calculus in a natural way. We will also be learning trigonometry and vectors, as well as a technique called dimensional analysis, which blends physics into algebra. We will be testing our mathematical results along the way by considering their physical meaning in extreme, and hopefully absurd, situations. In the process, we will get a sense of how numbers are used in science, as well as how physics can inspire new mathematical ideas.

Prerequisite: Completion of *Algebra II* or *Integrated Math III*.

Homework per class meeting: 2-5 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

Precalculus ⏩

SD3749 M W F 8:30 - 12:00 Philippe Henri

This fast-paced course completes all topics necessary for success in Calculus: elementary functions including inverses and transformation theory; polynomial and rational functions and their graphs; exponential and logarithmic functions; trigonometric functions of real numbers, graphs of the trigonometric functions and their inverses; trigonometric functions of angles; analytic trigonometry, identities; polar coordinates and vectors including polar graphing, polar form of complex numbers, DeMoivre's Theorem, roots of unity; analytic geometry, conic sections including rotation of axes, polar equations of conics, parametric equations; sequences, series, sigma notation; proof by mathematical induction; introduction to limits; introduction to differentiation. The course emphasizes conceptual understanding, technical skills, and the use of technology to use mathematics to model the real world.

Prerequisite: Completion of *Algebra II*, grade of A in current math class, Teacher Review Form completed by current math instructor, and passing score on placement test.

Homework per class meeting: 6-10 hrs.

Recommended credit: 10 units

Tuition: $1000 ($850 base tuition + $150 facilities fee)

SOCIAL SCIENCES

Public Speaking

SD3750.1	M & Th	8:30 - 12:00	Elizabeth Scherman
SD3750.2	M & Th	1:00 - 4:30	Laura Shefler
SD3750.4	Tu & F	1:00 - 4:30	Laura Shefler

Students in this course will develop the writing and performance skills needed to become clear, compelling, confident, and persuasive public speakers. We will practice a variety of speaking styles, including impromptu (speaking "off the cuff" on a randomly selected topic), dramatic interpretation (of monologues from novels, plays, and films), debate (defending a position on a controversial issue), and oratory (a formal speech that seeks to inform, inspire, or persuade on a topic of your choice). We will also study, view, and analyze the performances of some of the most powerful orators of the past century. If you are seeking to reduce your anxiety about public speaking, this course provides a friendly, nonthreatening environment in which to increase your confidence. If you already enjoy public speaking, you will have an opportunity to enhance and practice your skills.

M & Th Sections (SD3750.1 & 50.2): For students completing Grades 6, 7, or 8 only.

Tu & F Section (SD3750.4): For students completing Grades 9, 10, or 11 only.

Homework per class meeting: 2-4 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

Social Psychology

SD3752.1	Tu & Th	1:00 - 4:30	Staff

Social psychology is the scientific study of the way people think about, feel, and behave in social situations. It involves understanding how people influence, and are influenced by, others around them. A primary goal of this course is to introduce you to the perspectives, research methods, and empirical findings of social psychology. We will use a college-level textbook along with supplementary readings to cover topics including: impression formation, conformity, pro-social behavior, interpersonal attraction, persuasion, stereotyping and prejudice. Equally important is the goal of cultivating your skills for analyzing the social situations and events that you encounter in your everyday lives. Finally, throughout the course, emphasis will be placed on developing critical and integrative ways of thinking about theory and research in social psychology.

Grade Requirement: For students completing Grade 8 and up.

Homework per class meeting: 2-4 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

The Practice of Law

SD3758.1	M & Th	8:30 - 12:00	Gary Kitajo
SD3758.2	M & Th	1:00 - 4:30	Gary Kitajo

This course will provide an overview of social institutions and functions addressed in the practice of law. Students will participate in each of the lawyer's roles: investigation, research, advocacy, trial preparation, and dispute resolution. In the process, students will examine the nature and history of law, interrogate parties, argue hypothetical cases, and draft legal pleadings and documents. This class requires active participation in lively classroom activities and projects, which include simulated trials, oral argument, and case briefing. Students are encouraged to participate freely in robust classroom discussions and debates, with a premium placed on the open exchange of ideas and opinions. The course will culminate in a mock trial, conducted in a courtroom setting before a presiding judge.

Grade Requirement: For students completing Grade 8 and up.

Homework per class meeting: 2-4 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

Minds, Brains, and Computers

SD3760	Tu & F	1:00 - 4:30	Alexander James

NEW COURSE: What does it mean to be a human being? Could consciousness be the product of a brain process? Is the brain a computer, and is the mind a software program run on the hardware of the brain? And what does this imply about personal identity? What has cognitive science taught us about the nature of human perception and reason? Is the body a machine? And how could a machine have feelings and sensations, and how could a brain have free will? Could ethics become a part of natural science? What might be the future implications of artificial intelligence for our culture? In this introductory philosophy class, we will investigate the sometimes perplexing, but fascinating, interrelation of neurobiology, consciousness and computational systems, as we explore the fundamental question of what it means to be a human being in the natural world. The readings for the class will consist in leading interdisciplinary work in philosophy, computer science and neuroscience.

Grade Requirement: For students completing Grade 8 and up.

Homework per class meeting: 2-4 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

Advanced Placement Psychology

SD3761 M W F 8:30 - 12:00 Staff

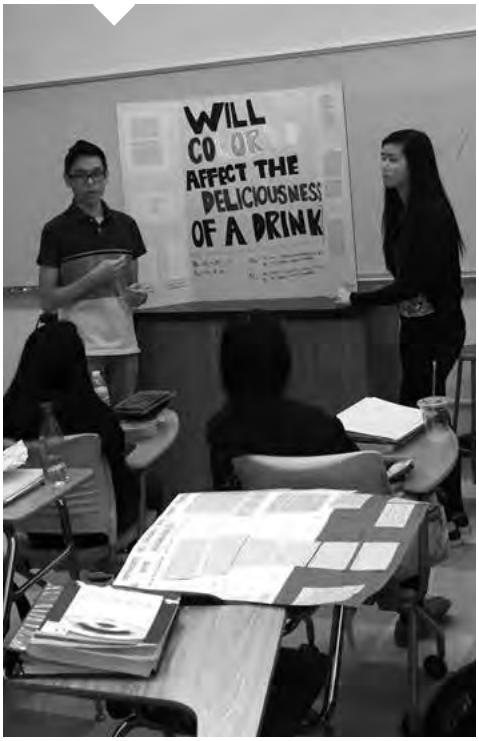
This course provides a rigorous introduction to the fundamental concepts in psychology and prepares students for the May 2018 AP examination in psychology. Topics include the neurological processes that lead to thought and behavior, the processes that allow people to sense and perceive information from the environment, sleep and dreams, behavior, sources of the motivation to act, emotional experiences, language, memory, human development across the lifespan, personality, psychological disorders, friendship, altruism, bias and discrimination, research methods, and statistics. The course uses a college textbook and requires that students do a significant amount of independent reading. Students come to class prepared to engage in interactive work, such as the analysis of case studies and current or historical events. Students also design and carry out an independent research project. In order to fully prepare students for the AP examination, students get ample practice answering AP-style questions.

Grade Requirement: For students completing Grade 9 and up; completion of 10th grade recommended.

Homework per class meeting: 4-8 hrs.

Recommended credit: 10 units

Tuition: $950 ($850 base tuition + $100 facilities fee)



Can you *really* measure happiness?
Learn the math behind the social sciences in **Probability & Statistics** on p. 10.

Entrepreneurship
The Science of Building a Startup

SD3763 Tu & Th 8:30 - 12:00 Sean Byrne

Startups are not just smaller versions of established businesses. Instead, they are research organizations that collect data and test a series of ever-changing hypotheses about what customers want to buy and how customers want to buy it. The experiment ends when the startup hits it big or runs out of money. Adapted from the Lean LaunchPad method taught at business schools and the National Science Foundation, this course will help you identify your initial hypothesis, develop tools to collect data from your customers, and revise or replace your hypothesis based on those data. This course will introduce you to the business model canvas as a way of describing a business and will cover other topics of interest to startup owners, such as marketing and venture capital financing.

Grade Requirement: For students completing Grade 9 and up.

Homework per class meeting: 2-5 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

Advanced Placement Economics

SD3764 M W F 1:00 - 4:30 Jon Schellenberg

Derived from the title of an ancient Greek treatise on household management, the word "economics" now describes a field of study that attempts to answer questions from how the government should fight pollution to why finding an apartment in San Francisco can be a nightmare. This course will prepare students for the May 2018 AP examinations in *both* Microeconomics and Macroeconomics. The course will be guided by the AP syllabi and will cover the following topics: basic economic concepts; supply and demand models; consumer choice; game theory; the theory of the firm; factor markets (markets of the ingredients of production, including land, labor, and capital); market failure; measures of economic performance; national income and price determination; the nature and functions of the financial sector; inflation and unemployment; economic growth and productivity; international trade and finance; fiscal and monetary policy; and the government's attempts (successful and unsuccessful) to make it all better.

Grade Requirement: For students completing Grade 9 and up; completion of 10th grade recommended.

Homework per class meeting: 4-8 hrs.

Recommended credit: 10 units

Tuition: $950 ($850 base tuition + $100 facilities fee)

Want to build structures instead of businesses?
For middle schoolers, see **Intro. to Engineering** on p. 14. Older? Check out **Architectural Design** on p. 7.

NATURAL SCIENCES

Introduction to Biotechnology

SD3771.1	Tu & Th	8:30 - 12:00	Debbie Clark
SD3771.2	Tu & Th	1:00 - 4:30	Debbie Clark

In this course, students will be introduced to the principles and techniques of molecular biology that are used to study and manipulate DNA in basic research, medicine, forensics, and agriculture. We will begin by studying the structure and chemistry of DNA, and we will then learn about many of the laboratory techniques used in recombinant DNA technology, including restriction digests, PCR, bacterial transformation, and immunological assays. In each class meeting, students will conduct hands-on experiments and learn about the real-world uses and implications of biotechnology. Additionally, students will complete weekly current events reports and examine the ethical considerations raised by advances in the field.

Grade Requirement: For students completing Grade 7 or 8.

Homework per class meeting: 3-6 hrs.

Recommended credit: 5 units

Tuition: $800 ($580 base tuition + $220 facilities fee)

Introduction to Engineering

SD3772	Tu & Th	1:00 - 4:30	Staff

The course is designed to give students an overview of diverse engineering disciplines—mechanical, electrical, and civil—in order to find out what engineers actually do. Students will see the difference between "science" as the discovery of new knowledge and "engineering" as the uses of that knowledge in new environments. Students will practice their own engineering skills, finding out how things work in the real world through various projects and hands-on activities. The course will emphasize creative and analytical problem solving, hands-on building activities, design, and teamwork.

Grade Requirement: For students completing Grade 7 or 8.

Homework per class meeting: 2-4 hrs.

Recommended credit: 5 units

Tuition: $800 ($580 base tuition + $220 facilities fee)

Introduction to Chemistry

SD3773.1	Tu & F	8:30 - 12:00	Amy Hansen
SD3773.2	Tu & F	1:00 - 4:30	Amy Hansen

Throughout this course, laboratory activities and discussions will focus on how chemists describe matter and its changes within the context of alchemy and early chemistry. Understanding the periodic table, the particulate nature of matter, ionic compounds, and solution chemistry will provide the basis for students to think about the world in terms of particles and their interactions. This course provides a grounding in scientific principles, which will prepare students to continue on to a high school chemistry class.

Grade Requirement: For students completing Grade 8 and up.

Homework per class meeting: 3-5 hrs.

Recommended credit: 5 units

Tuition: $800 ($580 base tuition + $220 facilities fee)

Introduction to Astronomy & Astrophysics

SD3774	M W F	1:00 - 4:30	Daniel Licht

NOTE: This course has a **four-week** schedule. It starts **June 19** and ends **July 14**.

In this course, students will learn about many of the objects that make up our solar system and surrounding galaxy, as well as some of the physics responsible for the appearance, behavior, and interactions of these objects. Students will gain a basic understanding of the movement of celestial objects through the sky and astronomical tools such as telescopes, astronomical cameras, spectroscopy, space probes and orbital observatories. Specific topics include interactions of the Earth, Sun, & Moon, Kepler's Laws and bodies of the solar system, types of stars, nebulae and stellar evolution, discovery of extrasolar planets, galactic structure, and basic cosmology. The course will include multiple observations of the sun and at least one late-night observation session or field trip.

Prerequisite: Completion of *Geometry*. Completion of *Algebra II/Trigonometry* recommended.

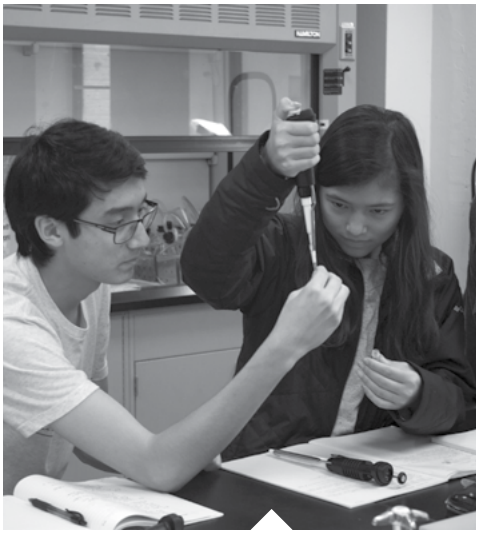
Grade Requirement: For students completing Grade 9 and up.

Homework per class meeting: 2-6 hrs.

Recommended credit: 5 units

Tuition: $800 ($580 base tuition + $220 facilities fee)

Curious about physics?
Want to prepare for calculus early?
See **Applied Mathematics** on p. 11.



Advanced Biotechnology

SD3775.1	M W F	8:30 - 12:00	Jay Chugh
SD3775.2	M W F	1:00 - 4:30	Jay Chugh

NOTE: This course has a **four-week** schedule. It starts **June 19** and ends **July 14**.

In this course, students will conduct advanced biotechnology experiments, including DNA extraction, PCR, bacterial transformation, and protein gel electrophoresis. Students will also research and design their own inquiry-driven experiments, which they can then continue during the school year in preparation for the science fair. Additionally, we will explore ethical and political implications of biotechnology; topics include genetically modified organisms, cloning, reproductive biotechnology, and stem cell research.

Prerequisite: Completion of high school Biology. Background in Chemistry recommended.

Grade Requirement: For students completing Grade 9 and up.

Homework per class meeting: 4-8 hrs.

Recommended credit: 5 units

Tuition: $800 ($580 base tuition + $220 facilities fee)

Advanced Placement Biology

SD3779	M W F	8:30 - 4:30	G Martinez & E Thiel

This course provides an opportunity for students to accelerate their study of biology with an introductory college-level biology course and to prepare for the May 2018 AP examination in Biology. The course uses a college-level textbook and follows the College Board course outline. Laboratory work is extensive and will be included in each class session. Topics include Molecular and Cellular Biology (biochemistry, cells, energy transformations), Genetics and Evolution (genetics, molecular genetics, evolution), Population Biology (plant biology and animal biology, including that of humans), and Ecology.

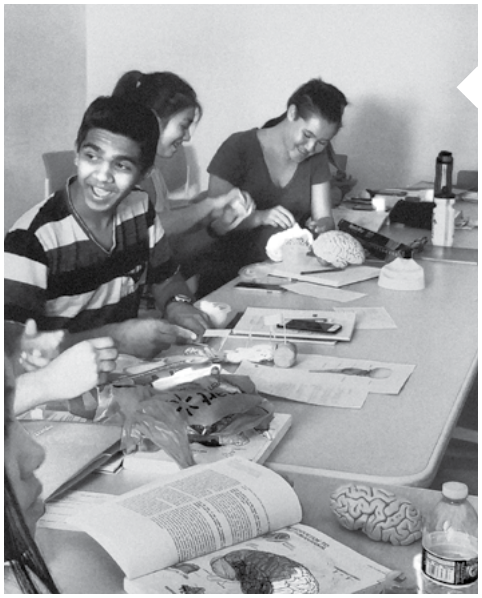
Prerequisite: Completion of *Algebra I* and high school Biology, and a background in Chemistry.

Grade Requirement: For students completing Grade 9 and up; completion of 10th Grade recommended.

Homework per class meeting: 4-10 hrs.

Recommended credit: 10 units

Tuition: $1500 ($1280 base tuition + $220 facilities fee)



Cognitive Neuroscience

SD3781.1	Tu & Th	8:30 - 12:00	Paul Bulakowski
SD3781.2	Tu & Th	1:00 - 4:30	Paul Bulakowski

Cognitive neuroscientists aim to answer one of the last remaining fundamental questions of science: how does a three-pound lump of organic material—the brain—support such a wide array of functions, such as perception, thinking and reasoning, emotion, movement, and consciousness? Through active lectures, demonstrations, and hands-on activities, we will explore modern theories and applications of adult and developmental neuroscience, along with the research methodologies used (e.g., single unit recording, fMRI, EEG, psychophysics). We will use diverse college-level reading materials to introduce key topic areas of Cognitive Neuroscience, including cells and systems, sensation and perception, attention, learning and memory, emotion, and development. An end-of-year project will provide the opportunity to learn how to read and evaluate primary research articles directly from the scientists in the field and propose an experiment on a brain topic of special interest.

Prerequisite: Completion of high school Chemistry, Biology, ***or*** Psychology.

Grade Requirement: For students completing Grade 9 and up.

Homework per class meeting: 6-10 hrs.

Recommended credit: 5 units

Tuition: $650 ($570 base tuition + $80 facilities fee)

Could we ever build an artifical brain?

If you're interested in deeper questions about what makes us human, see **Minds, Brains, and Computers** on p. 12.

ATTENDING

Secondary Division students should expect an intense and unforgettable experience at one of the world's most eminent public college campuses. Whether traveling via your neighborhood BART station or arriving from out-of-state, ATDP students should prepare for a stimulating preview of the rigors of university study.

Acceptance

PLACEMENT MAILING

Students who have been accepted to ATDP and who applied by the March 1 deadline will be mailed an acceptance packet on March 30. This packet contains a welcome letter with important information, your course placement, tuition payment instructions, our Explorations guide (see "Explorations," p. 2), a campus map, and the *Notification of Attendance or Withdrawal* form.

Students who plan to attend must return the *Notification of Attendance or Withdrawal* by May 1, in addition to their emergency information and tuition payment.

OTHER PLACEMENT DECISIONS

In certain situations, students may be accepted to the program without a course placement:

In a wait pool. Very popular courses fill quickly. If your first course choice becomes unavailable, we will automatically place you into a pool of applicants to be considered if a spot opens. Unlike a traditional waiting list, all applicants are considered for openings, and we use the same criteria as in our standard application process.

Need alternate course choices. Many factors determine whether an applicant qualifies for a particular course, including prerequisites, grade level, and strength of the academic profile relative to other applicants. If an accepted student does not qualify for the particular course(s) indicated on the application, we will ask for alternates. We are happy to work with applicants to find the best course placement.

ATDP isn't for everyone! We encourage students who cannot commit to attend ATDP or who have not been accepted to explore other summer opportunities at UC Berkeley or elsewhere. These students are welcome to apply again for summer 2018.

NEW REQUIREMENT: PROVIDING IMMUNIZATION RECORDS

University of California policy requires all students participating in campus programs to provide proof of immunization. ATDP's application requirements have not changed, but families of students who are admitted to the program should be prepared to provide immunization information for each student when they confirm their course placement. Updated information and instructions will arrive with students' acceptance packets.

Tuition & Payment

TUITION

Tuition fees for ATDP courses can be found under the individual course descriptions (pp. 5-15). These include the base tuition fee and facilities fee, but do ***not*** include the application processing fee, nor expenses for textbooks, personal supplies, or transportation. Families will be notified of their balance due when placement decisions are mailed on March 30, 2017. For those making a single payment, families will have until Monday, May 1 to send a check for the entire balance. If a family needs to pay in installments, the first payment of at least $100 must be postmarked by May 1 and the remaining balance must be fully paid by Friday, July 28 (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 "SD" 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 or the facilities fee.

REFERRAL DISCOUNT

Families that have attended ATDP in the past have the opportunity to refer students from a family new to ATDP. The new student and returning student will each receive a $50 discount if they both attend during the summer. The returning student must apply online by the February 15 returning student postmark deadline to generate their unique referral code. The new student must apply by the March 1 new student/financial aid postmark deadline and provide the referral code on their online or paper application form. Both students must enroll during the same summer to receive the discount.

See atdp.berkeley.edu/referral for complete details and FAQs.

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 international students, those coming from outside of the immediate San Francisco Bay Area, or 11th graders who are new to the program.

Requests for financial aid—complete with supporting documents, tax returns, and schedules—are due by the application deadline of Wednesday, March 1, 2017. ***We do not 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 March 30. Awards cover base tuition only; they do not cover transportation, textbooks, course facilities fees or other expenses. Families who need to pay tuition in installments will have until July 28 to do so. Details will be included in the acceptance letter.

Instructions for applying for financial aid are on page 23.

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 Wednesday, May 17, 2017, tuition and facilities fee payments are refundable. After May 17, 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 withdrawn from ATDP for failure to meet the standards of appropriate behavior, including completion of homework. The $50 processing fee is also nonrefundable.

Location & Transportation

All SD courses are held on the UC Berkeley campus, which is conveniently located a short walk away from the Downtown Berkeley BART station and several AC Transit bus lines. Many families choose to carpool to campus, and information about carpools, BART meet-ups, and campus shuttles will be provided in the student's acceptance packet. For families driving to Berkeley, please visit UC Berkeley's Parking and Transportation website (pt.berkeley.edu) for parking details.

THE ATDP MAIN OFFICE

Unlike many of our courses, ATDP's main office is not located in Tolman Hall (home of the Graduate School of Education). Please look us up at 2199 Addison Street in Berkeley to find University Hall. We are in room 70 on the ground floor.

CARPOOL

For students and their families interested in forming carpools, ATDP provides an online directory of other students from their area who are also interested in carpooling. Families then contact each other and form their own carpools. The carpool directory is available only to students who have been accepted into the program, who have an online account, and who have opted into the directory themselves.

If you and a sibling or friend want to attend ATDP at the same time so that you can commute together, include the request in the Letter of Interest in both applications. Make certain that the schedules of the courses you each request match. The earlier you both apply, the more likely we will be able to work with your schedules.

BART ORANGE

For Secondary Division students who prefer the convenience of BART to travel to and from campus, BART authorizes middle and high schools to resell discounted Orange tickets at half the price of a standard ticket. Because ATDP is not a middle or high school, we cannot sell these tickets. However, if a student is able to purchase these tickets at his or her own school, they may be used for transit to and from ATDP during the summer. BART Orange tickets do not expire and, if unused, may be returned to BART for a cash refund.

Orientation & Preparation

WELCOME & ORIENTATION

The Secondary Division orientation will be held for students and families on Saturday, June 3. This is a good time for accepted students to become familiar with the Berkeley campus, meet their instructor and their new classmates, ask questions of the ATDP staff, and find their classroom location.

TEACHER LETTER & FIRST ASSIGNMENT

At the end of the orientation program, Secondary Division instructors will hand out an important letter to students that includes contact and course information. ***Most instructors will assign coursework to be completed prior to the first class meeting.*** This letter will be mailed home to students who do not attend the orientation.

TEXTBOOKS

Most course textbooks will be available for purchase at University Press Books, starting from Orientation on June 3 until your first day of class. Some instructors will prepare a course-specific reader purchasable at Bancroft Copy Central. Please note that textbooks and students' supplies are not included in tuition.

Attendance

POLICY

There are no excused absences at ATDP. As expectations are high and courses are fast-paced, even one absence makes it difficult to keep pace. Therefore, students are expected to attend every class session. ***Missing too much class time for any reason may result in dismissal from the program without refund.*** Even in the case of unanticipated circumstances, there are some things that cannot be "made up" (such as introductions, class participation, group activities, presentations, or examinations, for example).

All matters affecting regular attendance—absence, coming late, or leaving early—must be communicated in writing to the program office (not the instructor) by the parent/guardian (not the student). If there are special circumstances that will affect a student's ability to attend ***every class***, please contact the program office in writing before applying. Barring exceptional circumstances, students who anticipate missing classes will not be allowed to attend the program. Anticipated absences not addressed prior to the refund deadline will not be accommodated. A student's attendance record will be taken into account in admission decisions in subsequent years.

Students who miss class time may not be eligible for a recommendation of credit and may not receive a final evaluation. Attendance decisions are not related to whether the student is taking the class for a possible recommendation of credit. Attending every class does not guarantee that a student will be recommended credit.

INDEPENDENCE DAY HOLIDAY

The UC Berkeley campus will be closed on Tuesday, July 4, 2017, in observance of Independence Day. Any course which is normally held on a Tuesday will have a make-up class session. Make-up classes will be determined and announced by individual course instructors.

Final Evaluation

Upon completing a Secondary Division course, ATDP students will receive a final evaluation from their instructor. Printed on official UC bond paper, this document can be sent to schools as proof of course completion. It includes the instructor's narrative evaluation of student performance, final letter grade, and whether the student has earned a recommendation of credit. ATDP will send one copy home in August and, if authorized by you, one copy to a selected school at no charge.

ATDP cannot provide a transcript for any of its courses, and the final evaluation is generally not an acceptable substitute for a high school transcript. For more information about ATDP's recommendation of credit, see "Credit" on page 2.

Attending FAQ

My sibling/friend and I need to have class at the same time. What can I do to ensure that we can commute together?

Attach notes to both of your applications indicating that you need to travel together and make certain that your courses' times match. The earlier you both apply, the more likely it is that we will be able to work with your schedules.

Where can I find summer housing near UC Berkeley?

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

APPLY

ATDP has a more thorough application process than many other programs because it's crucial for us to have as well-rounded an academic profile of the applicant as possible. This ensures they are prepared for the rigors of a fast-paced Secondary Division course. It also gives students a taste of the college application process!

THE APPLICATION PROCESS

We make every effort to place all qualified students in their first-choice course. ATDP makes placement decisions on a continual basis, beginning as soon as applications are completed. 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. Applications are evaluated in the order they are complete, with first preference in placement given to returning students. Incomplete applications are not considered for placement.

NEW VS RETURNING

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—they must have maintained strong academic records and must submit their complete applications early. A student who applied in a previous year and then withdrew without completing a course will be considered a new student for admission purposes. Students who have attended the Elementary Division previously are also considered new students. Applications received after the deadline will be considered on a space-available basis.

PLACEMENT DECISIONS

On March 30, 2017, ATDP will mail all applicants a letter informing them whether they have been accepted. Acceptance packets will include your course placement. Students have until Monday, May 1, 2017 to submit their *Notification of Attendance or Withdrawal* to indicate whether or not they will be attending the Secondary Division session.

See the table below and the calendar on the back cover for more details.

DEADLINES & NOTIFICATION

ATDP evaluates applications continuously, in the order they are completed. ***The earlier you apply, the better your chances at receiving placement into your preferred course!*** To receive priority as a returning student, or to apply for financial aid, be sure your application package is placed into the mail on or before the postmark deadlines below.

For applicants who are...	POSTMARK DEADLINE Mail your documents...	PLACEMENT MAILING ATDP will send you an acceptance decision...	TUITION DEADLINE You must accept or decline...
RETURNING (attended SD before)	by Wednesday, February 15	on Thursday, March 30	by Monday, May 1
NEW or **APPLYING FOR FINANCIAL AID**	by Wednesday, March 1	on Thursday, March 30	by Monday, May 1
APPLYING LATE	as soon as possible!	within three weeks of receipt of the completed application	within two weeks of receipt of the acceptance decision

Seeing these dates for the first time?

We publish our program dates and deadlines each year in the fall. Subscribe to our **community newsletter at atdp.berkeley.edu/news** or follow us on **Facebook at facebook.com/ucb.atdp** to receive notification as soon as they're available!

APPLICATION INSTRUCTIONS IN 4 STEPS

STEP 1

CHOOSE A COURSE

Browse our course offerings listed on pp. 5-15. Choose one course that interests you and up to three alternates. Make note of the listed course number and any grade requirements or prerequisites. Keep our attendance policy (p. 19) in mind as you review the course schedule. *See "Selecting a Course" on page 4.*

Course availability may change throughout the spring as courses fill. Check atdp.berkeley.edu/sd/catalog for updates.

STEP 2

GATHER DOCUMENTS

Please compile the following items in the order listed below. Items numbered 1 through 5 are required for a complete application. We request you include College Board PSAT/SAT scores (item 6) if they are available, and federal tax documentation (item 7) if you wish to apply for financial aid.

1. Letter of Interest

Please write a cover letter to accompany your application, explaining your reasons for choosing each of the courses listed on your **Application Information Form**. In your (the student's) own words, include information about your interest in the subject(s), what you hope to learn, and related experience, if any. In this letter and on your Application Information Form, please only list courses in which you are actually interested in enrolling.

Your letter may also include any special circumstances, such as transportation or scheduling needs.

If you are applying for two courses, include your petition in your letter. Specify your desired course schedule, and explain your plan for managing the increased time commitment. *See "Applying for Two Courses" on page 4.*

Please do not send certificates or awards.

2. Teacher Review Form

Give the **Teacher Review Form**—attached between pages 12 and 13—along with an envelope to a current teacher in any academic subject (e.g., mathematics, science, language arts; ***not*** elective, advisory, or extracurricular classes). 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. If you are applying for Algebra I, Geometry, Algebra II/Trigonometry, or Precalculus, this form **must** be completed by your current math teacher. Otherwise, the teacher's academic subject need not match the subject of the ATDP course(s) to which you are applying.

3. Copy of Report Card

Submit a legible photocopy of your first semester (or most recent) report card for the current ('16–'17) school year.

We request that you send final grades, but if those are not available, you may submit your most recent progress report. Do not delay submitting your application to wait for final grades; if necessary, we may ask for an updated report card after receiving your application. If you need assistance obtaining a copy, ask in your school office.

CONTINUED ON NEXT PAGE

STEP 2

CONTINUED FROM PREVIOUS PAGE

4. Copy of Test Scores

Include a legible photocopy of your most recent California standardized test 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). The test must have been taken within the past three years (i.e., 2016, 2015, or 2014) and include scores in the areas of **math** and **reading/ELA**.

Do not delay submitting your application to wait for more recent test scores. Include whatever acceptable test scores you have from the last three years.

If you have not taken a standardized achievement test in the past three years (this may include many current high school juniors), include a signed note with a school stamp from an administrative staff person at your school indicating so.

5. Academic Product or Essay

Please submit an academic product that meets the criteria of one of the three options below. This work should be one of which you are especially proud and which was completed since September 2016. 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 as that to which you are applying, but keep in mind that the written component must develop your own original thinking beyond restating facts. If your product is more than one page, staple the pages together but do not staple them to the application or put them in a folder.

OPTION A. Submit an essay or story of at least 500 words that shows your original thought and that is long enough for you to develop your ideas. A social studies or science report is ***not*** appropriate unless it relies heavily on your own analysis in addition to reporting factual information.

OPTION B. If you'd like to submit a piece of academic work that deviates from a traditional essay or story format (e.g., art, poetry, computer programs, and science experiments), you must also submit a clear, well-developed explanation of your work. Your written explanation should be at least 500 words and must be long enough to clearly demonstrate your thinking as you developed this product.

OPTION C. Write a well-developed essay of no more than 1,500 words on one of the topics below. You may type or write in ink on lined paper. Take time to consider the topic in depth and organize your answer. Be sure to title your essay.

1. Clay Johnson wrote: "Just as food companies learned that if they want to sell a lot of cheap calories, they should pack them with salt, fat, and sugar — the stuff that people crave — media companies learned that affirmation sells a lot better than information. Who wants to hear the truth when they can hear that they're right?" How do you or your family get news? Citing specific examples from your experience, the experiences of those you know well, or from current events, construct a well-organized essay that describes how one's "information diet" can affect one's understanding, opinions, and decision-making.

2. It is common to require students in English classes to read classic literature, often written by authors like William Shakespeare or Charles Dickens. Some students are opposed to these texts as they feel they do not apply to their lives currently. Make an argument for or against reading classic literature in class.

6. Copy of SAT/PSAT Scores (optional)

If available, include a legible copy of your College Board PSAT and/or SAT scores. These scores will be used for research purposes only, and they will not affect placement decisions.

7. Need-based Financial Aid (optional)

See page 17 for tuition & financial aid information.

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 2015 return if your 2016 return is not yet available. We will ask for your 2016 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 hardship, submit a letter of explanation and supporting documents listed above.

Send your complete application materials no later than Wednesday, March 1. We will not consider financial aid requests for applications that are completed after the financial aid 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 Thursday, March 30, 2017.

STEP 3

FILL OUT THE APPLICATION FORM

Please complete the **Application Information Form** at atdp.berkeley.edu/apply. Students who apply online can log in to check the status of their application at any time. Returning students need only update the information on their account (e.g., address, current school) when they reapply online.

Once you have submitted the online form, print and sign the **Statement of Commitment** and include it with the rest of your application documents (step 2).

If you are unable to access the form online, complete the **Application Information Form** (including the Statement of Commitment) attached between pages 10 and 11.

APPLICATION COMPLETENESS **CHECKLIST**

Make sure you have included 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
- ❑ Letter of Interest
- ❑ Envelope containing your Teacher Review Form, with teacher's 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
- ❑ Photocopy of College Board PSAT and/or SAT scores, if available
- ❑ Federal tax return and all schedules, if applying for need-based financial aid

CONTINUED ON NEXT PAGE ➔

STEP 4

SEND IT IN

Include a $50 processing fee, payable by check or money order to "UC Regents." Write "SD" and the student's first and last name on the memo line.

This fee is non-refundable. It covers only the cost of application processing and does not apply toward tuition or facilities fees.

One you have all of the required materials, place your processing fee payment on top of the rest of your documents (see checklist, previous page), and mail them in a single package to:

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

Only complete applications will be considered. Do not send the application in parts.

Application FAQ

If admission is based on academic preparedness, why is applying early so important?

Applications are considered in the order in which they are completed. For the most competitive courses, there are always more qualified applicants than the program can accommodate. Highly qualified applicants who apply early have the best chance of being placed in their preferred courses at their preferred meeting times.

I didn't learn as much as I would have liked in my math class this year. Can I repeat a math class at ATDP that I have already taken at my regular school?

No, we do not allow ATDP students to repeat math classes. Instead, we suggest that you consider taking a 5-unit math elective for which you have completed the prerequisites or a course in another field of study.

How are financial aid awards determined?

Financial aid awards are based on total family resources, determined in part by tax returns and schedules. We make every effort to help families with limited resources; however, we are often unable to offer full financial aid, and families who receive full financial aid for tuition will still need to pay the course facilities fee.

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.

May 6th graders apply to the Secondary Division?

Our Elementary Division offers courses for 6th graders: see our Elementary Division catalog or atdp.berkeley.edu/ed. **New** ATDP applicants who will be completing 6th grade in 2017 are not eligible for the Secondary Division. **Returning** ED students with very strong academic records who will be completing 6th grade are eligible to apply for *The Writing Process, Elements of Web Design, Foundations of Algebra,* and *Public Speaking*.

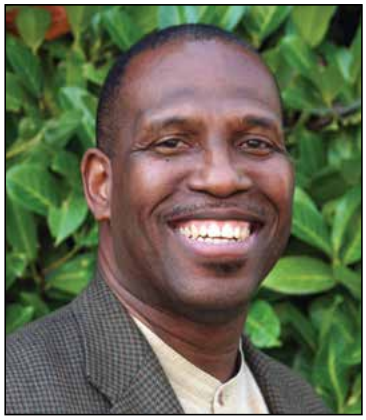
I'm not from the San Francisco Bay Area. May I apply?

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.

STAFF & ADMINISTRATION

Prudence Carter
Dean
Graduate School of Education

Lisa Kala
Program Director



Frank C. Worrell
Faculty Director

PROGRAM STAFF

Top row: **Hila Pazner, Mildred Flores, Asst. Director Carrie Brown, Cypress Lynx**
Bottom row: **Samuel Pierce, Stevie Jeung, Cynthia Nie**

Tolman Hall
Graduate School of Education

University Hall
ATDP Main Office

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

510-642-8308
atdpoffice@berkeley.edu

1-60910-11349-62

2017 CALENDAR

POSTMARK DEADLINES	**Wed., February 15**	**Returning SD applicants**
	Wed., March 1	**New SD & former ED applicants** and **financial aid requests** Turn in applications as early as possible!
PLACEMENT DECISIONS	**Thurs., March 30**	**ATDP mails notification of acceptance**
TUITION DEADLINE	**Mon., May 1**	**Students return Notification of Attendance or Withdrawal** Postmark deadline for tuition payment
REFUND DEADLINE	**Wed., May 17**	**Last day to request a full refund**
MATH TESTING	**Sat., May 20**	**Placement & diagnostic testing** for students in most math courses
WELCOME & ORIENTATION	**Sat., June 3**	**Orientation for students and parents** Textbooks and course readers available for purchase
CLASSES	**Mon., June 19**	**Secondary Division classes begin at UC Berkeley**
	Tues., July 4	**Holiday** Tuesday classes will hold a make-up session (to be determined)
	Fri., July 28	**Classes End** Last day to complete payment for those paying in installments

atdp.berkeley.edu

Application Information Form

2017 SUMMER SESSION – SECONDARY DIVISION

atdp | SD

Note: Please review the application instructions on pp. 20 – 24 before completing this form. In order to have a complete application, you must submit all required application documents indicated in these instructions.

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

http://atdp.berkeley.edu
atdpoffice@berkeley.edu
510-642-8308

You can register on our website and submit this information online at atdp.berkeley.edu/apply.
Alternatively, you may complete and attach this paper form. Please print all information in black or blue ink.

I. Basic Information

STUDENT'S LAST NAME	STUDENT'S FIRST NAME	MID. INIT.	GENDER	DATE OF BIRTH	AGE

PARENT/GUARDIAN'S LAST NAME	PARENT/GUARDIAN'S FIRST NAME	DAYTIME PHONE ❑ Cell ❑ Work	PRIMARY HOME/FAMILY PHONE
		( )	( )

MAILING ADDRESS (INCLUDE APT. NO.)	CITY	STATE	ZIP CODE

PARENT/GUARDIAN'S EMAIL ADDRESS	STUDENT'S EMAIL ADDRESS (IF AVAILABLE)*

*ATDP sets limits on how we use student email addresses. See "Contact" below.

GRADE	NAME OF CURRENT SCHOOL	SCHOOL ADDRESS

Have you attended ATDP before?

- ❑ No, I am a new applicant
- ❑ No, but I have applied previously
- ❑ Yes, I have attended the **Secondary Division**
- ❑ Yes, I have attended only the **Elementary Division**

LAST YEAR APPLIED

List any siblings also applying to ATDP

NAME(S) OF SIBLING(S)

Which division(s) are they applying for?

❑ SD (Secondary) ❑ ED (Elementary) ❑ Both

If this is your first time at ATDP, how did you hear about us?

- ❑ Word of mouth (friends, family)
- ❑ School faculty or staff
- ❑ Event, fair, or festival
- ❑ KQED/NPR radio
- ❑ Web search (Google)
- ❑ Berkeley Parents Network
- ❑ StudentEducationPrograms.com
- ❑ School website
- ❑ NAGC website
- ❑ Bay Area Kid Fun
- ❑ Marin Mommies
- ❑ 510 Families
- ❑ Facebook
- ❑ Other: _____

Do you have a referral code?
You MUST apply by March 1.
See atdp.berkeley.edu/referral for details.

REFERRAL CODE

II. Course Selection

List one or more course choices below, in order of preference. If your primary choice (1) is full or your application is not competitive for it, we will consider your alternates (2-4) 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.**

	COURSE TITLE	Check box below if any schedule is acceptable** ANY	OR	You may select specific sections of a course by listing its number and schedule below: SPECIFIC COURSE #	DAYS	AM/PM
1 Primary		❑		SD37		
2 Alt.		❑		SD37		
3 Alt.		❑		SD37		
4 Alt.		❑		SD37		

TWO CONCURRENT COURSES - RESTRICTIONS APPLY

❑ I am petitioning to take two courses AND I have explained my request in my Letter of Interest (Application Item 1).

Recommended for returning students only.
See page 4 for information and restrictions on petitioning to take two courses.

**You may have a better chance of placement into your preferred course by selecting "ANY" schedule.

CONTINUE ON REVERSE →

Research participation. ATDP has a responsibility to conduct research that contributes new knowledge that leads to growth and improvement in our understanding of how academically talented students learn and how they can be better served. We ask our students and their families to assist in this effort by contributing between 1 and 3 hours per year to participating in this research. However, opting not to participate in research will in no way affect admission into the program. Before a student can participate in a study, ATDP gives detailed information about it to the student and his or her parent(s) and obtains their informed consent in writing.

Nondiscrimination statement. 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.

Contact. For direct communication, ATDP attempts to contact families first by email, then by phone, then by post mail if necessary. ATDP collects student email addresses for the sole purposes of (1) notifying parents and students of their application status, (2) sending program news and announcements, (3) providing them to instructors to facilitate communications regarding coursework during the summer program, (4) requesting feedback about the student's experiences involving the program, and (5) informing students of research participation opportunities. Students are not required to provide an email address; ATDP will instead use the parent's email address for messages intended for the student.

1. Carefully remove sheet from booklet.
2. Cut on dotted line to separate.

III. 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 I
- ❑ Latino/Other Hispanic-American S
- ❑ African-American/Black B
- ❑ Pacific Islander U
- ❑ Mexican/Mexican-American/Chicano C
- ❑ Pilipino/Filipino-American P
- ❑ Chinese/Chinese-American A
- ❑ Vietnamese/Thai/Other Asian V
- ❑ East Indian/Pakistani E
- ❑ White/Caucasian (& Middle Eastern) W
- ❑ Japanese/Japanese-American J
- ❑ Korean/Korean-American K
- ❑ Other (please indicate): O _____
- ❑ Decline to state D

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

Completed by mother (or parent/guardian 1) ☐

Completed by father (or parent/guardian 2) ☐

5

OCCUPATION OF MOTHER (OR PARENT/GUARDIAN 1)	OCCUPATION OF FATHER (OR PARENT/GUARDIAN 2)

6 **Please indicate the approximate income of your parents last year.**

- ❑ Less than $10,000 A
- ❑ $10,000 - $25,000 B
- ❑ $25,000 - $50,000 C
- ❑ $50,000 - $75,000 D
- ❑ $75,000 - $100,000 E
- ❑ $100,000 - $150,000 F
- ❑ $150,000 - $200,000 G
- ❑ Over $200,000 H

IV. Financial Aid

Are you applying for need-based financial aid? ❑ No ❑ Yes, and I have included my family's most recent Federal Tax Return and all Schedules (i.e., the complete tax return).

V. Statement of Commitment

All students and parents must agree to and sign the following statement of commitment prior to admission into ATDP.

"I understand that students may be dismissed from the Program without refund because of absences, failure to complete assignments, or behavior involving academic dishonesty or interpersonal interactions that is unfitting to the purpose of the Program."

_____
Signature of Student Applicant
(Student MUST sign)

_____
Signature of Parent or Guardian
(Parent MUST sign)

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Berkeley Graduate School *of* Education

Remember: your application is NOT COMPLETE without all required items!
See list and instructions on pp. 16-20.

Returning Student postmark deadline: **Wednesday, Feb. 15, 2017**

New Applicant and Financial Aid deadline: **Wednesday, Mar. 1, 2017**

APPLY EARLY. Applications are considered for admission and course placement in the order they are completed. Late applications will be considered as space allows.

1. Carefully remove sheet from booklet.
2. Cut on dotted line to separate.

Teacher Review Form

2017 SUMMER SESSION – SECONDARY DIVISION (GRADES 7-11)

atdp | SD

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 one review form completed by a **current teacher in any academic subject** (such as mathematics, science, language arts; ***not*** fine arts, advisory, or extracurricular classes). Visit atdp.berkeley.edu for more information about the program.

Please:

(1) Complete the basic information below and both parts on the second page 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 Secondary Division (SD) application postmark deadlines are ***Wednesday, February 15*** for returning students and ***Wednesday, March 1*** for new students. Late applications are accepted on a space-available basis.

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 teacher)

STUDENT'S FULL NAME	
STUDENT'S SCHOOL	
GRADE LEVEL(S) YOU TEACH	ACADEMIC COURSE IN WHICH YOU TEACH THIS STUDENT
YOUR NAME	
YOUR SIGNATURE x	
YOUR EMAIL (PLEASE PRINT CLEARLY)	

Has this student been selected for the Gifted & Talented Education (GATE) program?

*This question is for research purposes only. It is **not** used for selection at ATDP.*

- ❑ Yes
- ❑ No
- ❑ No GATE program at this school
- ❑ I don't know

If you are this student's current math teacher, please indicate the student's current performance in math.

Current math letter grade

Current math course (check one)

- ❑ 6th grade math
- ❑ 7th grade math
- ❑ 8th grade math
- ❑ Algebra I
- ❑ Geometry
- ❑ Algebra II/Trigonometry
- ❑ Precalculus/Math Analysis
- ❑ Calculus
- ❑ Other (please indicate): _____

* The student has been instructed to provide an envelope. Any envelope is acceptable.

** If you or your school has a policy of sending all correspondence directly, you may do so using the address listed below. In this case, please do not delay as we will not consider a student's application until all materials, including this form, have been received.

PLEASE CONTINUE TO NEXT PAGE →

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Academic Talent Development Program
Graduate School of Education
70 University Hall #1160
Berkeley, CA 94720-1160
http://atdp.berkeley.edu
atdpoffice@berkeley.edu
510-642-8308

Berkeley Graduate School of Education

For this student, how often have you observed the following?

▼ Creativity	NA*	Rarely	Sometimes	Frequently
takes novel approaches to projects or assignments	☐	☐	☐	☐
connects new ideas with existing knowledge or interests	☐	☐	☐	☐
plays with academic concepts through jokes, art, writing, or other creative means	☐	☐	☐	☐
▼ Work Habits & Behavior	**NA***	**Rarely**	**Sometimes**	**Frequently**
demonstrates teamwork in class activities	☐	☐	☐	☐
is self-directed and works well independently	☐	☐	☐	☐
acts as a leader or role model in class	☐	☐	☐	☐
is persistent in solving problems or completing tasks	☐	☐	☐	☐
▼ Interest & Curiosity	**NA***	**Rarely**	**Sometimes**	**Frequently**
takes on challenging tasks that are complex and/or difficult	☐	☐	☐	☐
asks insightful questions or makes comments that show a grasp of the material	☐	☐	☐	☐
▼ Academic Preparedness	**NA***	**Rarely**	**Sometimes**	**Frequently**
demonstrates advanced comprehension of class material	☐	☐	☐	☐
completes high-quality work that exceeds requirements	☐	☐	☐	☐
grasps new information quickly	☐	☐	☐	☐

* check "NA" if there has not been an opportunity to observe this behavior

Comments

A. Please include comments, examples, or concerns regarding this student's functioning in any of the above areas. You may attach an additional page if needed.

B. Please comment on any supports this student uses at school (language proficiency needs, accommodations or modifications, etc.).