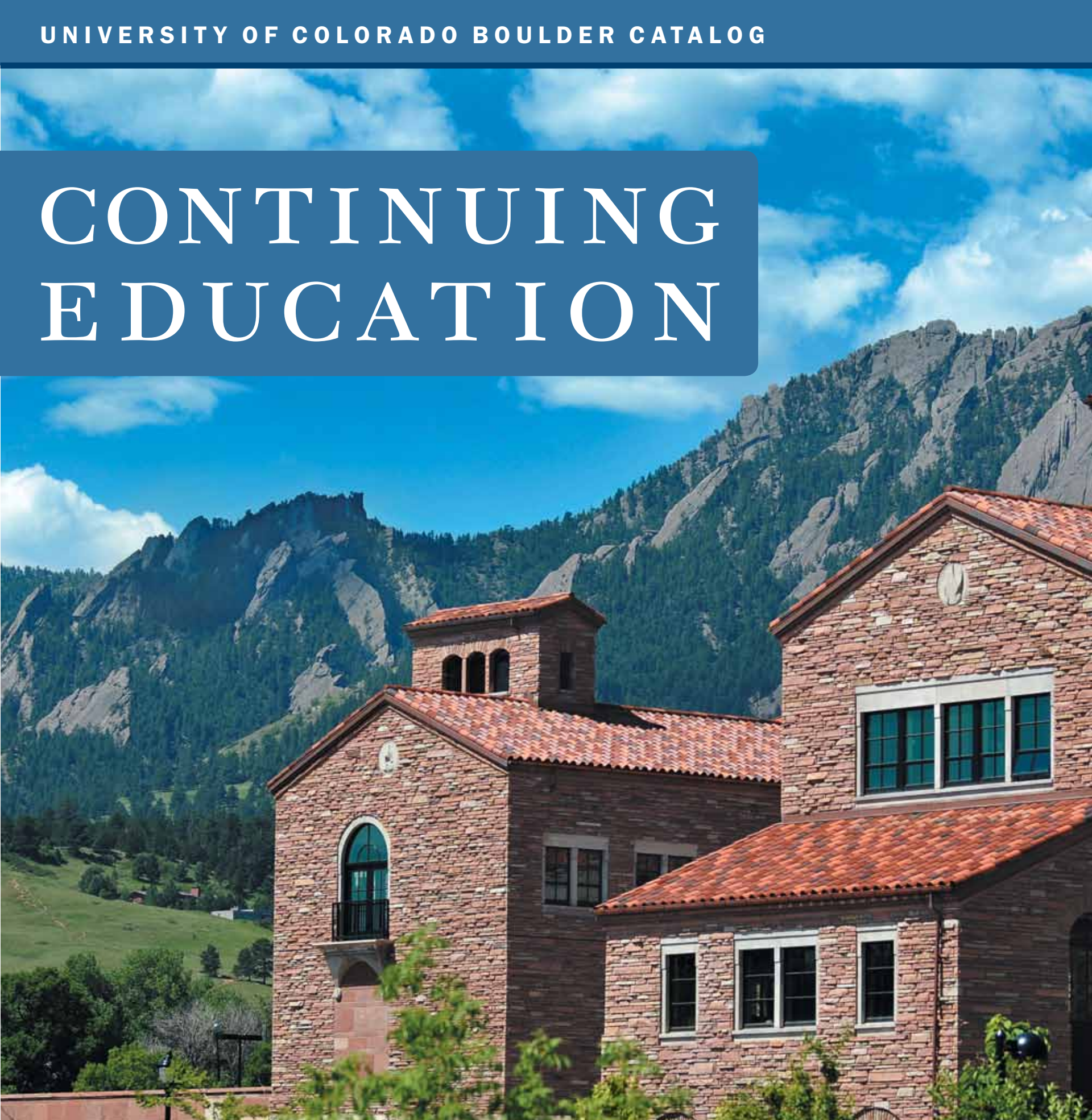


# CONTINUING EDUCATION



**Buried in time.**  
Pompeii and the Cities  
of Vesuvius. — p. 5

**#getinvolved.**  
New Media and Civic  
Engagement. — p. 10

**Back to school time.**  
CU Complete. — p. 17

**Inspiring Curious  
Minds.** Science  
Discovery. — p. 22

**Explore more online:**  
Visit [conted.colorado.edu](http://conted.colorado.edu)  
for course updates.

## SUMMER '14





## **Gateway to possibility.**

The Division of Continuing Education serves as a gateway between students and the CU-Boulder campus. Undergraduate students can accelerate the achievement of their degree through evening and online for-credit courses. Local residents can explore their passion, discover a new one, or finish their degree through CU Complete. CU Continuing Education opens doors for your future.

**Visit us online at [conted.colorado.edu](https://conted.colorado.edu) or in person at 1505 University Avenue, Boulder.**



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University of Colorado credit courses offered weekdays after 5 pm through the departments of communication, English, mathematics, psychology, sociology, Spanish, and more.

## 6 Independent Learning

Online University of Colorado credit courses — an excellent solution for disciplined independent learners.

## 18 Engineering Anywhere

Convenient, flexible education for working professionals seeking master's degrees, Master's level certificates, and skill-building short courses.

## 20 International English

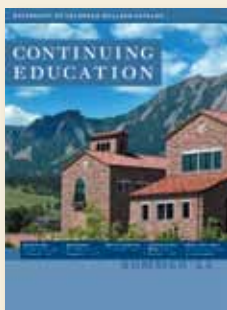
English as a second language programs for international students, community residents, or interested visitors from other countries.

## 22 Science Discovery

An experience-based educational outreach program designed to stimulate scientific interest, understanding, and literacy among Colorado's youth, teachers, and families.

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Projects highlighting faculty research, creative work, and teaching aimed at audiences outside the university community.



### Let's get connected.

Visit [conted.colorado.edu/catalogs](http://conted.colorado.edu/catalogs) to be placed on the permanent mailing list.



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European Art, 1300-1800

SARAH NICHOLS

“When we connect ancient art to contemporary art, we can see the story as a whole, including the backdrop that frames our **PERCEPTIONS.**”

“I encourage students to pull back the curtains and look at the framework behind the ideas we study,” says Sarah. “By thinking critically, we can see that art is framed by cultural baggage. For better or worse, we are continually interacting with and reacting to the biases that shape our perceptions. We are having an ongoing conversation with the past, and this dialogue between artists of the present and art of the past is an important part of art history.”

## TAKE CREDIT FOR LEARNING

**Use our evening courses to make significant progress toward a degree or to acquire a career-advancing skill without taking time away from the rest of your busy life. You can start a degree, finish one, enhance your employability, experiment with returning to college, or supplement your current on-campus course load. It all depends on you.**

**Boulder Evening credits are just like those awarded on main campus. Grades count toward your GPA. And your transcript doesn't distinguish between evening and daytime courses. Talk with one of our advisors today.**

### Eligibility

All you need is a high school diploma or GED. Individuals with University of Colorado service indicators (financial holds) may not enroll.

If you are considering applying to CU-Boulder as a degree student in the future, meet with a Continuing Education academic advisor to learn about your academic options. We want to help you be successful at the University of Colorado and meet your academic goals. Requirements for admission vary by your

status (freshman, transfer, second-degree student), so set up an academic advising appointment before you enroll in classes. If you are under age 22, please bring copies of your high school transcript, any college transcripts, and your SAT or ACT scores to your advising appointment. For more information about admission procedures and registration status, call Continuing Education at 303-492-5148.

### Adding and/or Dropping Courses

Complete information on enrolling and dropping, along with deadlines, can be found on page 4. If you don't officially withdraw from a course, you may receive a grade of *F* for that course and you may be liable for any tuition and fees.

If you do not attend your course regularly during the first week through the last day to drop (see page 4), you **may** be administratively dropped. Check with your instructor or contact Continuing Education for additional information.

### Tuition

Boulder Evening tuition is assessed in addition to any tuition paid on campus (resident or nonresident).

Tuition is determined by your residency.

#### In-state tuition

\$284 per credit hour.

#### Out-of-state tuition

\$1,104 per credit hour.

## BOULDER EVENING



A full tuition schedule is available at [conted.colorado.edu/tuition](http://conted.colorado.edu/tuition).

Some courses requiring special equipment or materials may be slightly higher.

### Residency

If you have lived in Colorado for the past 12 months, you may be eligible for in-state tuition rates although you may be asked for documentation. For additional information, please contact our classification coordinator at 303-492-5148.

### Final Exams and Grades

Final exams are held the last day of the class. See the list of courses by start date on page 5. Final grades will be available on [mycuinfo.colorado.edu](http://mycuinfo.colorado.edu) approximately two weeks after a class ends. If you need an official transcript, visit the registrar's office website at [www.colorado.edu/registrar](http://www.colorado.edu/registrar) for information.

### Faculty and Staff Discounts

University of Colorado faculty and staff on at least a half-time, permanent appointment and retired faculty and staff may enroll in classes at a 50% tuition discount. Please provide proof of status when you enroll.

### Student Fees

Boulder Evening students have the option of paying student fees for use of the Recreation Center, Wardenburg Student Health Center, etc., including an RTD bus pass. Visit [conted.colorado.edu/student-resources/accounting](http://conted.colorado.edu/student-resources/accounting) for information.



**Let's get connected.**

Visit [conted.colorado.edu/catalogs](http://conted.colorado.edu/catalogs) to be placed on the permanent mailing list.



## IMPORTANT DATES – SUMMER 2014

### Session 1 - Section 100 (5 weeks)

**March 10:** Boulder Evening registration through MyCUInfo begins 7 am - midnight. Registration is also available by mail, fax, or in person at the Division of Continuing Education, 1505 University, 8 am-5 pm Monday through Friday.

**May 23:** Deadline to apply for Nontraditional Student Scholarship. See page 28 for details.

**May 26:** University closed.

**June 2:** Boulder Evening Session 1 classes begin.

**June 5:** 11:59 pm deadline to enroll online using MyCUInfo (4:30 pm deadline in person) in Session 1 classes, add your name to a wait list, request *pass/fail* status, or drop with a 100% refund. Withdrawals from classes after this date will appear as a *W* on your academic record.

**June 12:** Deadline (11:59 online using MyCUInfo, 4:30 in person, or email to [ceregistration@colorado.edu](mailto:ceregistration@colorado.edu)) to withdraw from Session 1 classes with a 60% refund.

**June 18:** Tuition due.

**June 19:** Deadline (11:59 online using MyCUInfo, 4:30 in person, or email to [ceregistration@colorado.edu](mailto:ceregistration@colorado.edu)) to withdraw from Session 1 classes with a 40% refund.

**June 20:** Deadline (11:59 pm deadline using MyCUInfo, 4:30 pm deadline in person, or email to [ceregistration@colorado.edu](mailto:ceregistration@colorado.edu)) to withdraw from Session 1 classes without instructor's signature. No tuition adjustment.

**June 21:** Instructor's signature and petition documenting extenuating circumstances required to withdraw from Session 1 classes. Petition forms available at Continuing Education.

**June 30:** 4:30 pm deadline to add Session 1 classes with instructor's signature.

**July 3:** Last day of classes and final exams for Session 1 classes.

**July 4:** University closed.

**July 7:** Petition documenting extenuating circumstances required to add Session 1 classes. Petition forms available at Continuing Education.

### Session 2 - Section 200 (5 weeks)

**March 10:** Boulder Evening registration through MyCUInfo begins 7 am-midnight. Registration is also available by mail, fax, or in person at the Division of Continuing Education, 1505 University, 8 am-5 pm Monday through Friday.

**May 23:** Deadline to apply for Nontraditional Student Scholarship. See page 28 for details.

**May 26:** University closed.

**July 4:** University closed.

**July 8:** Boulder Evening Session 2 classes begin.

**July 11:** 11:59 pm deadline to enroll online using MyCUInfo (4:30 pm deadline in person) in Session 2 classes, add your name to a wait list, request *pass/fail* status, or drop with a 100% refund. Withdrawals from classes after this date will appear as a *W* on your academic record.

**July 16:** Tuition due.

**July 18:** Deadline (11:59 online using MyCUInfo, 4:30 in person, or email to [ceregistration@colorado.edu](mailto:ceregistration@colorado.edu)) to withdraw from Session 2 classes with a 60% refund.

**July 25:** Deadline (11:59 online using MyCUInfo, 4:30 in person, or email to [ceregistration@colorado.edu](mailto:ceregistration@colorado.edu)) to withdraw from Session 2 classes with a 40% refund.

**July 28:** Deadline (11:59 pm deadline using MyCUInfo, 4:30 pm deadline in person, or email to [ceregistration@colorado.edu](mailto:ceregistration@colorado.edu)) to withdraw from Session 2 classes without instructor's signature. No tuition adjustment.

**July 29:** Instructor's signature and petition documenting extenuating circumstances required to withdraw from Session 2 classes. Petition forms available at Continuing Education.

**August 4:** 4:30 pm deadline to add Session 2 classes with instructor's signature.

**August 8:** Last day of classes and final exams for Session 2 classes.

**August 11:** Petition documenting extenuating circumstances required to add Session 2 classes. Petition forms available at Continuing Education.



### Chrissy Lee

Intro to Studio Art

**“I’ve been playing violin all my life and have discovered that I also love drawing. I am working on adding studio art to my major. When I graduate I will be a music teacher, but I also hope to teach elementary art or maybe illustrate children’s books. Regardless of the specific form, art is a way for people to express themselves.”**

## BOULDER EVENING

### COURSES BY START DATE

Course No.–Hours	Sec.	Class No.	Times	Course Title	Core	In-state Tuition
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#### SESSION 1

##### Monday through Friday course begins June 2 and ends July 3

ARTS 1875-3	100E	19055	12:45-3:55 pm	Ceramics for Non-Majors	none	\$1,077
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##### Tuesday courses begin June 3 and end July 1

*IPHY 2420-3	100E	19060	6-8 pm	Nutrition for Health and Performance	natural science	\$852
*WRTG 3020-3	100E	19063	6-8 pm	Topics in Writing: Language, Power, Performance	written communication	\$862

##### Tuesday and Thursday courses begin June 3 and end July 3

*MATH 2510-3	100E	19291	6-9 pm	Introduction to Statistics	none	\$852
*SOCY 3016-3	100E	19292	6-9 pm	Marriage and the Family in U.S. Society	United States context	\$852

##### Wednesday courses begin June 4 and end July 2

*ARTH 3039-3	100E	19057	6-8 pm	Greek Art and Archaeology	literature and the arts	\$852
*CLAS 3039-3	100E	19058	6-8 pm	Greek Art and Archaeology	literature and the arts	\$852

#### SESSION 2

##### Monday through Friday courses begin July 8 and end August 8

ARTS 3453-3	200E	19064	11 am-2 pm	Monotype 1	none	\$1,077
ARTS 4453-3	200E	19065	11 am-2 pm	Monotype 2	none	\$1,077
ARTS 5453-3	200E	19066	11 am-2 pm	Graduate Monotype Printing	none	\$1,077

##### Tuesday course begins July 8 and ends August 5

*ARTH 3309-3	200E	19248	6-8 pm	European Art, 1300-1800	none	\$927
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##### Tuesday and Thursday course begins July 8 and ends August 7

*SPAN 2110-3	200E	19062	6-8 pm	Second-Year Spanish 1	foreign language	\$872
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##### Wednesday course begins July 9 and ends August 6

*CLAS 2019-3	200E	19056	6-8 pm	Pompeii and the Cities of Vesuvius	historical context	\$852
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Course descriptions are available at [conted.colorado.edu/evening](http://conted.colorado.edu/evening)

\*A portion of this course will be taught online.

Introduction to Human Geography  
**LEIGH VILLEGAS**

“How does geography, the study of how humans  
**I N T E R A C T**  
with earth and the space we inhabit, change  
when technology is increasingly interconnecting  
our world?”

“Independent Learning students come from all different backgrounds and places around the globe,” says Leigh. “The themes of space and place are very salient to our course, even while technology makes it possible for us to learn from each other in a virtual context. I ask my students to look at the world from different perspectives and different scales, from the global to the personal, and from self to other.”

**THE ULTIMATE IN FLEXIBILITY WITH CU QUALITY.**

**You call the shots – by deciding when, where, and how you learn.**

**Independent Learning lets you start your study any time of the year.**

**You can complete courses over the Internet; choose from self-paced classes that you complete according to your calendar; or term-based classes that follow the semester calendar. Online classes allow rich interaction with your instructor and other students.**

**Think of the possibilities. You can earn extra credit toward your degree, enhance and develop your job skills, prepare for a career change, or just satisfy your curiosity – all at your own convenience.**



## INDEPENDENT LEARNING



So, it's up to you to challenge yourself and to decide how you want to take a course. Complete course descriptions and additional information are available at [conted.colorado.edu/independent](https://conted.colorado.edu/independent) or call 303-492-5148.

If you are considering applying to CU-Boulder as a degree student in the future, meet with a Continuing Education academic advisor to learn about your academic options. We want to help you be successful at the University of Colorado and meet your academic goals. Requirements for admission vary by your status (freshman, transfer, second-degree student), so set up an academic advising appointment before you enroll in classes. If you are under age 22, please bring copies of your high school transcript, any college transcripts, and your SAT or ACT scores to your advising appointment. Advising appointments can be held by phone or in person. To make an appointment online and explore your options visit [conted.colorado.edu/student-resources](https://conted.colorado.edu/student-resources). For more information about admission procedures and registration status, call Continuing Education at 303-492-5148.

### Faculty and Staff Discounts

University of Colorado faculty and staff on at least a half-time appointment are eligible for a 20% discount on most courses with the exception of the Writing and Rhetoric courses.

### Course Information

These University of Colorado credit classes are approved by the individual departments.

#### Term-based Courses

Term-based courses follow a fixed calendar so that all students will be on the same schedule and can regularly interact with each other online.

#### Self-paced Courses

Self-paced courses allow you up to 6 months conducted online. Many of these courses involve online interaction among students and a broad range of web activities.

### Independent Learning also offers:

#### Applied Music

Private and small group for-credit music instruction with the Applied Music program (see page 14).

#### Youth Piano Program

In cooperation with the CU-Boulder College of Music, we are offering group classes for beginners ages 6-8 and private lessons for ages 9-17 or younger students with some training. Students will learn from experienced instructors from the College of Music. Visit [conted.colorado.edu/youthpiano](https://conted.colorado.edu/youthpiano) for complete information.

## TERM-BASED ONLINE COURSES

These courses are offered on a term basis in order to provide rich interaction with your instructor and the other students in the course. The courses follow a calendar of assignments and examinations. Note the term dates carefully. These courses are conducted as virtual seminars, requiring significant amounts of writing and significant amounts of interaction with the instructor and other students. Plan on 90 hours of work in addition to approximately 45 hours with the study guide.

## TERM-BASED COURSES BY START DATE

Course No.–Hours	Section	Class No.	Course Title	Core	Tuition
<b>Session IL 3 – 10 weeks: June 2 – August 8</b>					
ANTH 2010-3	581	18921	Introduction to Physical Anthropology 1	natural science	\$1,065
ATLS 3519-3	581	18924	Universal Design for Digital Media	none	\$1,065
ATLS 4519-3	581	19199	Implementing Accessibility in WordPress	none	\$1,065
COMM 2400-3	581	18932	Discourse, Culture, and Identities	human diversity	\$1,065
COMM 2500-3	581	18936	Interpersonal Communication	none	\$1,065
COMM 3610-3	581	18939	Communication, Technology, and Society	none	\$1,065
ENGL 1600-3	581	18941	Masterpieces of American Literature	literature and the arts	\$1,065
ENGL 1800-3	581	18942	American Ethnic Literatures	human diversity	\$1,065
ENGL 3164-3	581	19268	History and Literature of Georgian Britain	historical context	\$1,065
ENGL 3267-3	581	18943	Women Writers	none	\$1,065
ENGL 4224-3	581	19269	Modern British and Irish Novel	none	\$1,065
ENGL 4665-3	581	18945	Studies in American Literature after 1900	none	\$1,065
FILM 1002-3	581	18967	Film Analysis for Non-Majors	none	\$1,150
GEOG 1001-4	581	18968	Environmental Systems 1: Climate and Vegetation	natural science	\$1,420
GEOG 1011-4	581	18969	Environmental Systems 2: Landscapes and Water	natural science	\$1,420
GEOG 1992-3	581	19073	Human Geographies	none	\$1,065
GEOG 2412-3	581	18970	Environment and Culture	none	\$1,065
GEOG 4501-3	581	18971	Water Resources and Water Management of Western United States	none	\$1,065

## IMPORTANT DATES FOR TERM-BASED ONLINE COURSES

### Summer 2014

	Session IL 3 (10 weeks)	Session IL 4 (8 weeks)	Session IL 1 (5 weeks)	Session IL 2 (5 weeks)
<i>Registration Begins.</i>	March 10	March 10	March 10	March 10
<i>Course Begins.</i>	June 2	June 2	June 2	July 7
<i>11:59 pm deadline to enroll online using MyCUInfo (4:30 pm deadline in person), add your name to a wait list, request pass/fail status, or drop with a 100% refund*.</i>	June 11	June 9	June 5	July 11
<i>Tuition Due.</i>	June 18	June 18	June 18	July 16
<i>11:59 pm deadline to withdraw using MyCUInfo (4:30 pm in person or via email to ceregistration@colorado.edu) with a 60% refund.</i>	June 18	June 16	June 12	July 18
<i>11:59 pm deadline to withdraw using MyCUInfo (4:30 pm in person or via email to ceregistration@colorado.edu) with a 40% refund.</i>	June 25	June 23	June 19	July 25
<i>11:59 pm deadline to withdraw via MyCUInfo (4:30 pm in person or via email to ceregistration@colorado.edu) without instructor's signature. No tuition adjustment.</i>	July 15	July 15	June 20	July 28
<i>4:30 pm deadline to add without instructor's signature.</i>	August 4	July 21	June 30	August 4
<i>Course Ends.</i>	August 8	July 25	July 3	August 8

\* Withdrawals from classes after this date will appear as a *W* on your academic record.



## INDEPENDENT LEARNING

Course No.–Hours	Section	Class No.	Course Title	Core	Tuition
GEOG 5501-3	581	18972	Water Resources and Water Management of Western United States	none	\$1,353
GEOL 1010-3	581	18984	Introduction to Geology	natural science	\$1,065
HIST 1010-3	581	18985	Western Civilization 1: From Antiquity to the 16th Century	historical context	\$1,065
HIST 1015-3	581	18986	History of the United States to 1865	United States context	\$1,065
HIST 1025-3	581	18988	History of the United States since 1865	United States context	\$1,065
HIST 1123-3	581	18989	Introduction to British History since 1660	historical context	\$1,065
HIST 2100-3	581	18991	Revolution in History: Haitian Revolution of 1791-1804	historical context	\$1,065
IPHY 2420-3	581	18993	Nutrition for Health and Performance	natural science	\$1,065
IPHY 2420-3	582	18995	Nutrition for Health and Performance	natural science	\$1,065
JOUR 1001-3	581	18999	Contemporary Media Analysis	none	\$1,065
JOUR 4301-3	581	19001	Media Ethics	none	\$1,065
JOUR 5301-3	581	19002	Media Ethics	none	\$1,353
MATH 1011-3	581	19003	Fundamentals and Techniques of College Algebra	quantitative reasoning and mathematical skills	\$1,065
MATH 1012-3	581	19004	Quantitative Reasoning and Mathematical Skills	quantitative reasoning and mathematical skills	\$1,065
MATH 1071-3	581	19006	Finite Mathematics for Social Science and Business	quantitative reasoning and mathematical skills	\$1,065
MATH 1081-3	581	19010	Calculus for Social Science and Business	quantitative reasoning and mathematical skills	\$1,065
MATH 1150-4	581	18946	Precalculus Mathematics	quantitative reasoning and mathematical skills	\$1,420
MATH 2510-3	581	18948	Introduction to Statistics	none	\$1,065
PHIL 1000-3	581	18952	Introduction to Philosophy	ideals and values	\$1,065
PHIL 1200-3	581	18954	Philosophy and Society	United States context or ideals and values	\$1,065
PHIL 1400-3	581	18955	Philosophy and the Sciences	natural science	\$1,065
PHIL 1600-3	581	19970	Philosophy and Religion	ideals and values	\$1,065
PSCI 1101-3	581	18957	The American Political System	contemporary societies or United States context	\$1,065
SOCY 1016-3	581	18966	Sex, Gender, and Society 1	human diversity	\$1,065
SOCY 2031-3	581	18976	Social Problems	ideals and values	\$1,065
SOCY 2077-3	581	18978	Environment and Society	ideals and values	\$1,065

### Session IL 4 – 8 weeks: June 2 – July 25

COMM 3310-3	581	18937	Principles and Practices of Argumentation	none	\$1,065
COMM 3320-3	581	18938	Persuasion in Society	none	\$1,065
ENGL 1500-3	581	18940	Masterpieces of British Literature	literature and the arts	\$1,065
ENGL 3563-3	581	18944	Shakespeare	none	\$1,065
IPHY 3430-3	581	18997	Introduction to Human Physiology	none	\$1,065
WRITG 3040-3	582	19018	Writing on Business and Society	written communication	\$1,065



Course descriptions are available at  
[conted.colorado.edu/independent](http://conted.colorado.edu/independent)

## TERM-BASED COURSES BY START DATE (continued)

Course No.-Hours	Section	Class No.	Course Title	Core	Tuition
<b>Session IL 1 – 5 weeks: June 2 – July 3</b>					
ATOC 1050-3	581	18925	Weather and the Atmosphere	natural science	\$1,065
CLAS 1013-4	581	18927	Beginning Classical Greek 1	none	\$1,420
CLAS 1030-3	581	18931	Introduction to Western Philosophy: Ancient	historical context	\$1,065
PHIL 1100-3	581	18953	Ethics	ideals and values	\$1,065
WRWG 1150-3	581	18979	First-Year Writing and Rhetoric	written communication	\$1,065
WRWG 1150-3	582	18983	First-Year Writing and Rhetoric	written communication	\$1,065
WRWG 3007-3	581	18987	Writing in the Visual Arts	written communication	\$1,065
WRWG 3020-3	581	18990	Topics in Writing: Writing on <i>The New York Times</i>	written communication	\$1,065
WRWG 3020-3	582	18992	Topics in Writing: Sports in American Culture	written communication	\$1,065
WRWG 3020-3	583	18994	Topics in Writing: New Media and Civic Engagement	written communication	\$1,065
WRWG 3020-3	584	18996	Topics in Writing: Comic Frame	written communication	\$1,065
WRWG 3020-3	585	18998	Topics in Writing: Cross-Cultural Writing and Film	written communication	\$1,065
WRWG 3020-3	586	19000	Topics in Writing: Multigenre Writing	written communication	\$1,065
WRWG 3030-3	581	19012	Writing on Science and Society	written communication	\$1,065
WRWG 3030-3	582	19013	Writing on Science and Society	written communication	\$1,065
WRWG 3030-3	583	19014	Writing on Science and Society	written communication	\$1,065
WRWG 3040-3	581	19017	Writing on Business and Society	written communication	\$1,065
WRWG 3090-1	581	19021	Advanced Topics: Digital Literacies	none	\$355
WRWG 3090-2	582	19022	Advanced Topics: Digital Literacies	none	\$710

## Session IL 2 – 5 weeks: July 8 – August 8

ATOC 1060-3	581	18926	Our Changing Environment: El Niño, Ozone, and Climate	natural science	\$1,065
CLAS 1023-4	581	18929	Beginning Classical Greek 2	none	\$1,420
PHIL 3140-3	581	18956	Environmental Ethics	ideals and values	\$1,065
PSCI 3191-3	581	18958	National Security Organization and Policy Making	none	\$1,065
PSCI 4703-3	581	18961	Alternative World Futures	none	\$1,065
WRWG 3020-3	587	19007	Topics in Writing: Food and Culture	written communication	\$1,065
WRWG 3020-3	588	19008	Topics in Writing: Environmental Writing	written communication	\$1,065
WRWG 3020-3	589	19009	Topics in Writing: Essay to Blog: Exploring Nonfiction	written communication	\$1,065
WRWG 3030-3	584	19015	Writing on Science and Society	written communication	\$1,065
WRWG 3040-3	583	19019	Writing on Business and Society	written communication	\$1,065
WRWG 3040-3	584	19020	Writing on Business and Society	written communication	\$1,065



Course descriptions are available at [conted.colorado.edu/independent](http://conted.colorado.edu/independent)



## INDEPENDENT LEARNING

### SELF-PACED COURSES

Course No.–Hours	Section	Course Title	Core	Tuition
<b>ALLIANCE FOR TECHNOLOGY, LEARNING, AND SOCIETY (ATLAS)</b>				
ATLS 3519-3	640	Universal Design for Digital Media	none	\$1,065
NCTM 3519-3	640	Universal Design for Digital Media (noncredit)	none	\$645
<b>ANTHROPOLOGY</b>				
ANTH 2070-3	641	Bones, Bodies, and Disease	none	\$1,065
<b>ART AND ART HISTORY</b>				
ARTS 1012-3	640	Drawing for Non-Majors	none	\$1,065
<b>ASTROPHYSICAL AND PLANETARY SCIENCES</b>				
ASTR 1000-3	640	The Solar System	natural science	\$1,065
<b>COMMUNICATION</b>				
COMM 2400-3	642	Discourse, Culture, and Identities	human diversity	\$1,065
<b>ECONOMICS</b>				
ECON 2010-4	640	Principles of Microeconomics	contemporary societies	\$1,420
ECON 2020-4	640	Principles of Macroeconomics	contemporary societies	\$1,420
ECON 3403-3	640	International Economics and Policy	contemporary societies	\$1,065
ECON 4111-3	640	Money and Banking Systems	none	\$1,065

#### Debra Warren

Lead Instructional Designer

**“I work with instructors and content experts to develop online courses, which often includes transitioning face-to-face classes to our online learning environment. There is always new technology to choose from, but before we incorporate it into courses we encourage instructors to evaluate it based on how well it will help students learn.”**



**SELF-PACED COURSES** (continued)

Course No.-Hours	Section	Course Title	Core	Tuition
<b>EDUCATION</b>				
EDUC 3621-3	641	Art for the Elementary Teacher	none	\$1,065
EDUC 4161-3	641	Children's Literature	none	\$1,065
<b>ENGLISH</b>				
ENGL 1260-3	640	Introduction to Women's Literature	human diversity	\$1,065
ENGL 1500-3	640	Masterpieces of British Literature	literature and the arts	\$1,065
ENGL 1600-3	641	Masterpieces of American Literature	literature and the arts	\$1,065
ENGL 2655-3	641	Introduction to American Literature 1	none	\$1,065
ENGL 2665-3	641	Introduction to American Literature 2	none	\$1,065
ENGL 3116-3	640	Topics in Advanced Theory: Postmodernism	none	\$1,065
ENGL 3553-3	640	Geoffrey Chaucer	none	\$1,065
<b>GEOGRAPHY</b>				
GEOG 1982-3	640	World Regional Geography	none	\$1,065
GEOG 3251-3	640	Mountain Geography	none	\$1,065
<b>GEOLOGICAL SCIENCES</b>				
GEOL 1010-3	641	Introduction to Geology	natural science	\$1,065
GEOL 1020-3	640	Introduction to Earth History	natural science	\$1,065
<b>HISTORY</b>				
HIST 1010-3	641	Western Civilization 1: From Antiquity to the 16th Century	historical context	\$1,065
HIST 1015-3	640	History of the United States to 1865	United States context	\$1,065
HIST 1025-3	640	History of the United States since 1865	United States context	\$1,065
<b>JOURNALISM</b>				
JOUR 3771-3	641	Media and Communication History	none	\$1,065
JOUR 4321-3	640	Media Institutions and Economics	none	\$1,065
<b>MATHEMATICS</b>				
MATH 1021-2	640	Numerical and Analytical College Trigonometry	none	\$710
MATH 1071-3	640	Finite Mathematics for Social Science and Business	quantitative reasoning and mathematical skills	\$1,065
MATH 1081-3	640	Calculus for Social Science and Business	quantitative reasoning and mathematical skills	\$1,065



Course descriptions are available at  
[conted.colorado.edu/independent](http://conted.colorado.edu/independent)



## INDEPENDENT LEARNING

Course No.–Hours	Section	Course Title	Core	Tuition
<b>PEACE AND CONFLICT STUDIES</b>				
PACS 3800-3	640	Topics in Peace and Conflict Studies	none	\$1,090
<b>PHILOSOPHY</b>				
PHIL 1100-3	640	Ethics	ideals and values	\$1,065
PHIL 3140-3	640	Environmental Ethics	ideals and values	\$1,065
<b>PSYCHOLOGY</b>				
PSYC 1001-3	641	General Psychology	none	\$1,065
PSYC 1001-3	642	General Psychology	none	\$1,065
PSYC 2012-3	641	Biological Psychology 1	natural science	\$1,065
PSYC 2145-3	641	Introductory Cognitive Psychology	none	\$1,065
PSYC 2606-3	640	Social Psychology	contemporary societies	\$1,065
PSYC 3101-4	640	Statistics and Research Methods in Psychology	none	\$1,420
PSYC 4303-3	640	Abnormal Psychology	none	\$1,065
PSYC 4456-3	640	Psychology of Personality	none	\$1,065
PSYC 4511-3	641	History of Psychology	none	\$1,065
PSYC 4684-3	641	Developmental Psychology	none	\$1,065
<b>SOCIOLOGY</b>				
SOCY 4014-3	641	Criminology	none	\$1,065
SOCY 4086-3	641	Family and Society	none	\$1,065



**Fenimore Johnson**  
Instructional Designer

**“When designing an online course, we start with the end in mind. What relevant, real-world things do we want students to be able to do after completing the course? Distance learning in higher education is becoming much more student-centered and peer-supported. When we take the students’ perspective, we can more effectively design online courses to address their learning and professional needs.”**

## ADDITIONAL CREDIT PROGRAMS

### ACCESS Program

#### (Available Credit Courses for Eligible Special Students)

Enroll in daytime credit classes at the University of Colorado Boulder for personal or professional development through the ACCESS Program. Nondegree students may take main campus undergraduate or graduate courses after most degree-seeking students have enrolled. ACCESS is an opportunity to learn about CU-Boulder and the academic departments, meet the faculty, and earn credit.

We are accepting applications for the fall 2014 semester. Enrollment begins Friday, August 22, and classes begin Monday, August 25. Call 303-492-5148 for more information or visit [conted.colorado.edu/access](http://conted.colorado.edu/access).

Our capable staff can provide academic advising, financial aid, and career advising through in-person or telephone appointments. Visit [conted.colorado.edu/student-resources](http://conted.colorado.edu/student-resources) to set up a free appointment.

ACCESS students who are Colorado residents taking undergraduate or a combination of undergraduate and graduate classes may be eligible for the College Opportunity Fund (COF). For more information visit [cof.college-assist.org](http://cof.college-assist.org).

### High School Concurrent Program

If you are a high school student interested in the challenge of university course work, you may enroll in credit courses at the University of Colorado Boulder through the High School Concurrent Program. You will earn university credit that may also be applied toward high school graduation requirements. Participation in the High School Concurrent Program requires written permission from your high school counselor and a parent/guardian.

If you are a high school junior or senior attending a public high school, you may be eligible for tuition assistance from your school district during the fall and spring semesters. You must notify your counselor of your intent to enroll at least two months prior to the beginning of the term. Call 303-735-5456 for an application and more information or visit [conted.colorado.edu/highschool](http://conted.colorado.edu/highschool).

High School Concurrent students enrolled in ACCESS courses are eligible to apply for the College Opportunity Fund. Visit [cof.college-assist.org](http://cof.college-assist.org) for more information.

### Individualized Instruction

For special cases when a student needs a course that is unavailable (talk to your advisor or call 303-492-5148 for more information).

### Applied Music Program

During the fall and spring semesters the College of Music and the Independent Learning Program offer private instruction for voice and popular instruments. Group classes are offered for beginning guitar. Private lessons are by arrangement.

Nine hours of instruction. Two semester hours of credit that can be taken for a letter grade, *pass/fail*, or no credit. For more information visit [conted.colorado.edu/appliedmusic](http://conted.colorado.edu/appliedmusic).

### Finishing Your Degree at CU

Completing a degree is a very unique experience for each person. Whether you began your degree at CU years ago, or are hoping to complete a degree started elsewhere, we have a friendly staff who understands the challenges of balancing school, work, family...life. Let our academic advisors help you create a plan to meet your needs, making the most of the abundant programs and resources that the university has to offer. Schedule an in-person or telephone appointment at [conted.colorado.edu/student-resources](http://conted.colorado.edu/student-resources) to discuss your options.

Learn more about the CU Complete Service for former CU-Boulder students on page 17.

#### Dean Rogers

Rise and Fall of Ancient Rome

**“I am hugely passionate about traveling and it’s my dream to go to Rome. I have always been interested in history and have taken a lot of history classes, but I am extremely interested in the culture and history of Rome in particular. I really want to understand as much as I can about the republic and the empire.”**

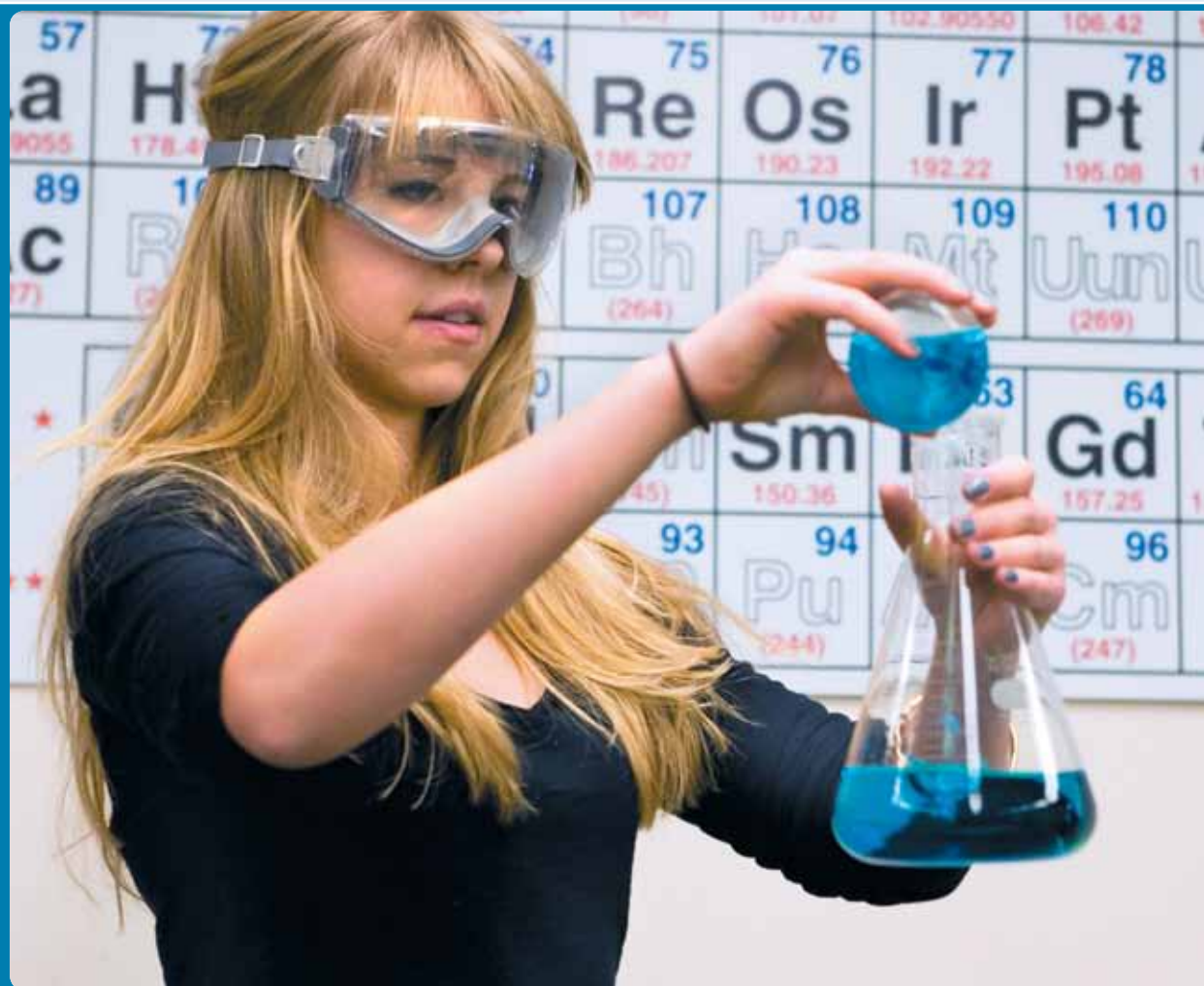




## POST-BACCALAUREATE PRE-MEDICAL PROGRAM

### Colleen Long

“I always knew I wanted to work with individuals with mental illness. As an undergrad, I planned to go to law school and then into disability law, but realized that, as a lawyer, I could not make the impact I hoped with this population. When I had the opportunity to work in a genetics lab, I fell in love with the work and knew I wanted to go to medical school. I’d like to be a psychiatrist or go into a MD PhD program to do genetic research in schizophrenia.”



### WHERE TO BEGIN YOUR NEXT CAREER

The post-baccalaureate pre-medical program is designed for “career changers” who were academically successful as undergraduates and have completed a bachelor’s degree, but have not completed the prerequisite courses necessary to apply to medical schools. This intensive yearlong post-baccalaureate program (one summer, followed by a fall semester and a spring semester) is appropriate for students who are either recent college graduates or experienced professionals seeking a career change. The program begins in early June, 2015 and provides the course work and support necessary to apply to medical schools in 2016.

Applications for the 2015 class will be accepted on a rolling basis beginning in November, 2014.

#### This program is designed for students who have:

- a strong academic undergraduate record with a bachelor’s degree in a non-science field. Most applicants will have a grade point average of 3.3 or above.
- completed college algebra and trigonometry, or the equivalent.

- an informed understanding of the health profession they seek to enter based on extensive and meaningful clinical experience in a healthcare setting such as shadowing medical professionals, volunteering with patients, or employment in a healthcare field.

We offer you the opportunity to gain a sound foundation in the science classes necessary to apply for graduate medical studies. Students receive individual advising, study skills for science classes, and application assistance. Here are the courses provided in the program:

#### Summer

- General Chemistry 1 with Lab
- General Chemistry 2 with Lab

#### Fall

- Introduction to Cellular and Molecular Biology with Lab
- Organic Chemistry 1 with Lab
- General Physics 1 with Lab

#### Spring

- Principles of Genetics with Lab
- Organic Chemistry 2 with Lab
- General Physics 2 with Lab

An optional second summer term with anatomy, physiology, and/or biochemistry courses is available.

Visit [premed.colorado.edu](http://premed.colorado.edu) for more information or email [postbacmd@colorado.edu](mailto:postbacmd@colorado.edu).



## SUMMER SESSION



### GET INTO SUMMER!

**Summer Session offers you the opportunity to earn academic credit, satisfy your curiosity, meet major or minor requirements, and be part of our summer community. Many of CU's most popular and sought-after courses are offered. The diverse population of students from CU and institutions across the country, high school students, and teachers and other professionals makes Summer Session a unique learning experience.**

**We also welcome international students to be part of summer in Boulder. Email [ceadvise@colorado.edu](mailto:ceadvise@colorado.edu) for more information.**

#### Special offerings during Summer Session include:

##### Faculty-in-Residence Summer Term (FIRST)

Learn from prestigious, world-class faculty that teach on the Boulder campus during summer session. These renowned scholars bring a wealth of experience, knowledge, and perspective to the classroom that will challenge and inspire your thinking. Take advantage of the incredible opportunity FIRST brings to you.

##### Maymester 3 weeks. 3 credits.

Accelerate your academic career with the intensive, single-course focus of Maymester. You will be immersed into an interactive environment where you can complete a core or major requirement in just three weeks. Gain knowledge and momentum by concentrating on a Maymester course.

##### Featured Classes

Explore the possibilities with new course offerings and classes that move you forward

and into new areas. Summer Session offers greater flexibility and smaller class sizes to make the learning process that much more engaging. Check out Featured Classes and find one that's right for you.

##### Online Classes

Get even more out of Summer Session with our online course program. Engage with your instructors and classmates in innovative ways, such as discussion groups, message boards, and video lectures. The classes are rigorous yet the schedule is flexible, so you can learn on your terms.

Visit [www.colorado.edu/summer](http://www.colorado.edu/summer) for additional information or to request a copy of the 2014 catalog.

##### Summer 2014 Schedule

Session M (Maymester):	May 12-30
Session A (5 weeks):	June 2-July 3
Session B (5 weeks):	July 8-August 8
Session C (8 weeks):	June 2-July 25
Session D (10 weeks):	June 2-August 8



**CU COMPLETE SERVICE**

**Dawne Lively**

**“When I first started college, all I wanted to do was play hockey. I was able to play at the collegiate level, but in hindsight it took me away from focusing on my education. Now, I realize how important it is to have an education. As a mother, I want to give my son the best life possible, but it’s tough to get a good job without a college degree. That’s why I chose to go back to school. After I graduate, I want to become an ultrasound technician, but I also want to show my son how important it is to go to school and finish what you start.”**



**NOW IS THE TIME TO COMPLETE YOUR DEGREE.**

Your degree is closer than you think. CU Complete offers the academic guidance and potential financial support to achieve the CU-Boulder degree that you started.

**Guiding Former Students Toward Completing Their Degrees**

CU Complete is a service designed to help former CU-Boulder students complete their degrees at CU.

Our advisors understand the challenges facing adult students and can help you create a path toward completing your degree.

If you are ready to work toward completing your degree, please fill out the intake form available at [cucomplete.colorado.edu](http://cucomplete.colorado.edu).

**CU Complete Scholarship**

Continuing Education has allocated scholarship funds to assist students who are trying to finish their CU bachelor’s degree.

More information is available at [cucomplete.colorado.edu](http://cucomplete.colorado.edu).



**Let’s get connected.**

Visit [conted.colorado.edu/catalogs](http://conted.colorado.edu/catalogs) to be placed on the permanent mailing list.



Studio Manager

SHANE VIGIL

“When the technology and the delivery methods disappear and all that remains is the joy of effective, efficient  
**LEARNING,**  
we’ve accomplished our vision.”

“We work to seamlessly capture course lectures so that distance students can experience them as a person in the classroom does,” says Shane, who manages classroom technology, lecture capture production, and delivery infrastructure for CAETE. “As blended learning becomes more popular, and our audience more geographically dispersed, it becomes more important for us to have robust quality standards for the technologies we use and the services we provide such that the learning and teaching experience remains paramount to the technology.”

Imagine sitting in your home or office, taking graduate classes from one of the top-ranked engineering schools in the nation. Engineering Anywhere is a global learning opportunity provided by the University of Colorado Boulder’s College of Engineering and Applied Science and the Center for Advanced Engineering and Technology Education.

For 30 years, we have helped working professionals like you advance their careers with flexible, convenient education through unique programs. We offer our courses real time, both via online and campus, and anytime, via streaming video or download. We also offer skill-building (noncredit) short courses for professional development.

**Real experts.** You will have the same access to, and support from, faculty who represent some of the best minds in Colorado, and the world.

**Real credentials.** Distance students get the same CU-Boulder graduate degree as on-campus students, not an online degree.

**Real flexibility.** Take just one graduate or professional development course, or earn an entire certificate or degree.

#### Master’s Degrees

- Aerospace Engineering
- Computer Science
- Electrical and Computer Engineering
- Engineering Management
- Telecommunications

#### Master’s Level Certificates

- Aerospace Engineering:
  - Astrodynamics and Satellite Navigation Systems
- Electrical/Computer Engineering:
  - Embedded Systems
  - Power Electronics
  - Software Engineering
- Engineering Management:
  - Engineering Entrepreneurship
  - Engineering Management
  - Leadership and Management
  - Managing Applied Research in Technology
  - Performance Excellence in Technology Management
  - Project Management
  - Quality Systems for Product/Process Engineering

## ENGINEERING ANYWHERE



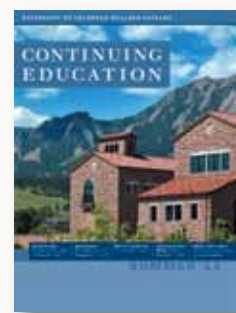
- Six Sigma Practitioner
- Six Sigma Belt Certifications
- Systems Engineering
- Technology Ventures and Product Management
- Telecommunications
  - Computer and Network Security
  - Energy Communication Networks
  - Network Architecture
  - Telecommunications Policy
  - Wireless Networks and Technologies
- RASEI (Renewable and Sustainable Energy Institute)
  - Renewable Energy
- Civil, Environmental, and Architectural Engineering
  - Water Engineering and Management

**Course Schedule Information**  
[EngineeringAnywhere.colorado.edu](http://EngineeringAnywhere.colorado.edu)  
 303-492-6331  
[engineeringanywhere@colorado.edu](mailto:engineeringanywhere@colorado.edu)  
[engineeringanywhere.com/blog](http://engineeringanywhere.com/blog)

The **Lockheed Martin Engineering Management Program (EMP)** is the MBA alternative for engineers, scientists, and technical professionals who want to move into management. Through your studies in EMP you can learn and practice data-driven management, develop leadership capabilities, and apply proven principles for business performance improvement. EMP offers 22 certificates, degrees, and dual degrees.

The **Interdisciplinary Telecommunications Program (ITP)** gives you the opportunity to study the most cutting-edge fields in telecommunications—and equips you to become a leader in high-growth companies and policy making agencies. While earning a degree through ITP, you can choose to focus in the areas of Wireless, Energy, IP Networks, Policy, and Security.

Why wait? Get started today to experience the robust curricula, world-class faculty, and strong industry partnerships of a tier 1 research university.



**Let's get connected.**

Visit [conted.colorado.edu/catalogs](http://conted.colorado.edu/catalogs) to be placed on the permanent mailing list.

International English Center

HAJAR ALBATTAH

“In Kuwait blind people are not treated as equals. I chose the IEC program so that I can get my degree in Psychology and go on to help people who are visually impaired

ACCESS

better education.”

“In Kuwaiti schools we are taught how to use computers, but as a blind person, I was not allowed to use computers for my schoolwork,” says Hajar. “I had to work with someone to write and read for me. But here, people at the IEC try very hard to give me the tools I need to be able to do the work myself. I am learning academic English to go on to get my degree, but I am also empowered to do my own homework and research. ”

1030 13TH STREET ON “THE HILL.”

Since 1975, the International English Center (IEC) has helped over 20,000 international students learn and master English. Our students go on to attend the University of Colorado, Colorado School of Mines, the University of Denver, Colorado State University, and dozens of other institutions. The children of our former students are now IEC students – we are multi-generational! The IEC offers two English as a Second Language (ESL) programs for international students, community residents, or interested visitors from other countries.

About the International English Center (IEC)

The International English Center offers a safe, nurturing, and dynamic environment where students take academically challenging course work in writing, reading, listening, and speaking. Grammar and vocabulary are incorporated into all classes, enabling students to develop their English language skills efficiently. Students also choose an elective course, which best meets their needs and interests. Electives include such

topics as: business English, test preparation, pronunciation, academic vocabulary, sports and nutrition, life skills, and volunteering. Additionally, the IEC provides workshops on U.S. higher education, a culture hour, reading club, tutoring center, and many other cultural, community, and sports activities. Students gain confidence as they experience the beauty of Boulder and Colorado.

Students have access to university libraries with a rich source of educational and research materials along with two computer

labs at the IEC. Students at the IEC have many opportunities to participate in activities on campus, including conversation groups, lectures, performances, and other University of Colorado Boulder events.

All IEC faculty members have master’s degrees and extensive teaching experience in academic English language programs. They also use the most current language learning methodology and materials.

The International English Center is fully accredited by the Commission on English Language Program Accreditation (CEA). We are also a member of UCIEP (Consortium of University and College Intensive English Programs) as well as EnglishUSA (formally, the American Association of Intensive English Programs).

Intensive English Program (IEP)

This program is especially designed for international students who are preparing to enter a university or graduate program in the U.S. It is also appropriate for working professionals and community members who want to improve their academic or professional



## INTERNATIONAL ENGLISH CENTER



English. The IEP consists of five eight-week sessions of full-time English language study (20 hours per week). Students participate in writing, reading, listening, and speaking, and elective courses. New students take a placement test, which determines their level. There are eight levels in the program: Introductory, Basic 1, Basic 2, Intermediate 1, Intermediate 2, Intermediate 3, Advanced 1, and Advanced 2. Class size is 12-15 students on average.

With permission of the director, advanced-level students may be eligible to enroll in University of Colorado Boulder classes.

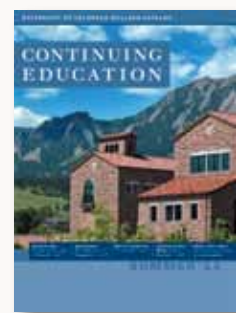
A limited number of scholarships are available for immigrants and refugees who demonstrate financial need. For more information about scholarships, please visit [iec.colorado.edu](http://iec.colorado.edu).

Certificates of completion are offered.

### English as a Second Language for Degree Students (ESLG)

The IEC offers non-intensive credit courses in accent reduction, academic writing, and presentation skills, designed for undergraduate and graduate students who need to improve specific areas in their English language proficiency. Nondegree students may enroll if they demonstrate an appropriate level of English proficiency. An English language placement test is administered every fall and spring semester. Course advisement and recommendations are based on students' test results.

For more information on any of these programs, please visit [iec.colorado.edu](http://iec.colorado.edu) or call 303-492-5547.



**Let's get connected.**

Visit [conted.colorado.edu/catalogs](http://conted.colorado.edu/catalogs) to be placed on the permanent mailing list.

## Biomedical Engineering

# KATHRYN PENZKOVER

“My main driver for getting kids involved in science is to encourage them to  
**QUESTION**  
how things work and be open to new ideas.”

“I don’t think everyone should become a scientist, but I like getting people interested in scientific topics so they are not afraid of them,” says Kathryn. “With a basic level of understanding, we can have productive national conversations on scientific topics where people are informed and have educated opinions. This way, people can say, ‘I am not a scientist, but I can ask some questions,’ rather than, ‘I don’t understand it, so I think it’s bad.’”

### ABOUT SCIENCE DISCOVERY

**CU Science Discovery, established in 1983, collaborates with CU-Boulder faculty to develop and deliver science education programs for K-12 students and teachers. Our mission is to heighten interest and increase literacy in science, technology, engineering, and math (STEM) by providing hands-on experiences that connect students and teachers to current CU science. We capitalize on CU-Boulder’s scientific resources, facilities, and expertise to excite students about STEM, expose them to a variety of STEM careers and professionals, and inspire a future generation of scientists and engineers. Through our programs, we impact more than 20,000 students and teachers across Colorado each year.**

#### Summer Camps and After-School Classes

For students ages 5-18, CU Science Discovery offers a wide variety of summer camps and after-school classes that span the STEM disciplines. Camps and classes offer enthusiastic and knowledgeable instructors (often STEM graduate students with teaching experience), access to university and community resources, small class sizes

(10-16 students), and a variety of laboratory and field experiences. Camps such as Maker Space, Engineering is Everywhere, and Reverse Engineering are designed to enrich student understanding and motivate them to explore science topics in greater depth. Advanced workshops, such as Flow Visualization, Materials Science: Biomimicry, and Medical Research Matters, offer opportunities for high school students

to learn more about STEM majors and career opportunities. From engineering to programming to physics, our Camp Program offers something for everyone! For a complete listing of current camps and classes, please visit our website.

#### Classroom Presentations

Science Discovery brings CU’s cutting-edge science and scientists to classrooms, libraries, and community centers throughout Colorado. The program collaborates with CU faculty, peer institutions, and other educational organizations to enrich STEM education statewide. Our interactive presentations and hands-on workshops introduce students to subjects across the STEM disciplines, including chemistry, physiology, and optics. Current offerings include several new programs in genetics, physical science, sustainability, and biotechnology. Each program’s content and activities support the Colorado Academic Standards and enrich student learning through fun, hands-on experiences.



## SCIENCE DISCOVERY



### STEM Workshops and Teacher Professional Development

Full-day STEM Workshops, offered on the CU campus and at school sites around the state, provide a more extended experience for elementary and middle school teachers and students. Teachers and students rotate through three different hands-on workshop modules, giving teachers the opportunity to participate in workshop activities alongside their students. STEM Workshops and related Teacher Professional Development Workshops focus on topics such as engineering, renewable energy, and earth systems science. CU Science Discovery conducts STEM Workshops and Teacher Professional Development Workshops at urban and rural sites throughout Colorado. Contact us to bring a STEM Workshop to your community!

### Field Science Programs

CU Science Discovery provides a variety of opportunities for students and teachers to participate in hands-on science while exploring the great outdoors. Throughout the school year, we offer field study programs that explore Colorado's ecosystems, such as Stream Ecology and Winter Ecology on Snowshoes. Our Mountain Research Experience, offered in collaboration with CU's Department of Ecology and Evolutionary Biology and INSTAAR, provides high school students and teachers the opportunity to conduct ecological field research while living and working at CU's Mountain Research Station. Our field programs provide teachers and students with opportunities to dig in and experience field science research firsthand. For more information about our programs and current offerings, visit [sciencediscovery.colorado.edu](http://sciencediscovery.colorado.edu) or call 303-492-7188.

### Girls in STEM

CU Science Discovery is working to advance gender equity in STEM by serving as the convening organization for the Colorado Collaborative for Girls in STEM, a statewide affiliate of the NSF-funded National Girls Collaborative Project. In this role, we help to coordinate activities across the state designed to build capacity among STEM education providers and school counselors, and promote greater opportunities for girls and women in STEM.

### CU Science Discovery Teen Café

Our Teen Café offers Boulder and Denver area teens an opportunity to meet and interact with local scientists in a fun and informal setting. The Teen Science Café meets monthly at each of two locations, one in Boulder and the other in Denver. Café topics span a wide range of STEM fields – from ecology to medicine to astrophysics! Topics and presenters are identified by our Youth Leadership Team who help us guide the program and run café events. For information about upcoming events or to get involved, please visit our website.



**CU Science Discovery summer camps feature hands-on activities that are engaging and informative. Participants explore current CU science covering a wide range of STEM disciplines. Enthusiastic, knowledgeable, and experienced instructors include CU faculty, graduate, and undergraduate scientists.**

## **NEW IN SUMMER 2014**

### **Aerospace Engineering**

Learn about the design, development, construction, and testing of aircraft and spacecraft. Study forces and experiment with rockets, airfoils, control surfaces, lift, drag, and much more.

### **Amazing Race: CU Edition**

Learn about science at CU as we put our skills to the test in a fun-filled campus scavenger hunt! Each day, we'll complete a series of hands-on/minds-on challenges in order to arrive at a special CU destination.

### **Brainiacs**

My brain told me to do it! Learn about the interesting ways our brain works with (or against) our body as we move, groove, and wander our way through life.

### **EcoExplorers**

This outdoor exploration will teach us how local plants, animals, soil, and water all work together to create exciting and thriving natural communities just outside our door.

### **Engineering is Everywhere**

Engineering truly is everywhere! Blend science and engineering practices with cutting-edge technology and 21st century materials. Explore engineering through polymers, bacteria, electricity, mechanics, and 3D printing.

### **Flight Club**

Learn how something as heavy as an airplane seems to defy gravity and fly. Make gliders, kites, and other flyers as we learn about Bernoulli's principle and other laws of physics that help things fly and float.

### **Fossil Hunters**

Explore the best places to uncover fossils in Colorado! Grab your rock hammer and hand lens and learn to identify which creatures these fossils belong to and how on earth they made their way to the mountains many millions of years ago.

### **Front Rangers**

Become a Park Ranger for a week as we explore the animals, plants, and habitats of the Front Range ecosystem. Learn to identify the trees by smell, flowers by touch, and animal scat and tracks by sight in our Colorado backyard!

### **Gears and Contraptions**

Learn about simple machines as we design, build and test some fantastical contraptions!

### **Grossology!**

What better way to spend the day than creating the ickiest, grossest, slimiest of body secretions in the classroom! Concoct fake blood, gooey snot, vile vomit, and boogers on a stick- all while learning about why and how our bodies produce these gross but oh-so-important substances.

### **Happenin' Habitats**

Explore the habitats of the world including forests, grasslands, deserts, wetlands, and arctic tundra. Discover what makes habitats so homey, which type of habitat we live in, and how to create our very own backyard wildlife habitat.

### **Maker Space**

Develop your inner engineer as we design products that are wilder, colder, faster, and safer! Tinker with an assortment of tools and materials as we design, test, and refine our creations.

### **Nature's Playground with Jeff and Paige**

Explore the Front Range ecology behind the songs of Jeff and Paige through hands-on arts and crafts and interactive games. Their exciting, fun-filled music exudes a love of the outdoors and ecology, bringing concepts like insect anatomy, energy conservation, and plate tectonics to kids of all ages.

### **Panem Uprising: The Science of the Hunger Games**

May the odds be ever in your favor, while we explore the science behind the jabberjay, botanical medicine and edible plants, archery, and climate change.

## SCIENCE DISCOVERY

### Pinball Design Challenge

Build, test and modify a non-electronic pinball machine to create a toy that meets certain specifications. Ideas covered in this hands-on camp include gravity, potential and kinetic energy, and inclined planes.

### Recess Science

Get the scoop on what is happening inside our bodies when at play. Discover how we use our muscles, bones, and tendons to run faster, throw farther, and jump higher. Then use this knowledge to create fun new games.

### Sports Medicine

An athlete's greatest asset is their own body. Learn about the ways our bodies move when playing different sports, why Olympians are so remarkable, and how our bodies recover from injuries. (Community College of Denver campus only.)

### Superhero Science

Discover the science behind our favorite superheroes. Learn about flight, speed, super-strength, and x-ray vision as we test the feasibility of these heroes' special powers.

### There's an App for That!

Have you ever wanted to create your own mobile game or app? Use App Inventor to add new features to existing apps as well as create your own from scratch.

### Toy Engineering

Try your hand at engineering and marketing an exciting new toy! Learn about the design process all marketed toys experience and how you can apply this process to engineer a new toy or improve an existing one.

## GIRLS EXPLORE STEM

Science Discovery has created a suite of camps designed to interest girls in a variety of STEM subjects. The Summer 2014 Girls in STEM camps include:

- Chemistry
- Computer Science
- LEGO Mindstorms
- LEGO Structures
- Math
- Scratch
- There's an App for That!
- Visual-Matics
- SciGirls

## HIGH SCHOOL OPTIONS FOR SUMMER 2014!

Science Discovery offers intensive 1-3 week summer workshops for high school students. Workshops provide unique opportunities for older students to work in CU laboratories, interact with CU scientists, and explore STEM careers. Summer 2014 High School Workshops include:

### BioSciences Series

Explore advances in the life sciences through this three-week series:

- Cognitive Science
- Microbiology
- Biomedical Engineering

### Engineering Series

Experience the dynamic world of engineering in this three-week series:

- Optical Engineering
- Environmental Engineering
- Materials Science: Biomimicry

### Flow Visualization

Learn techniques to capture the visual beauty of fluid dynamics created by varying friction, density, temperature, and more.

### Geologic Field Methods

Explore basic field techniques and data collection and map geologic and geomorphic features through the use of various survey equipment.

### Medical Research Matters (University of Colorado Anschutz Medical Campus)

Learn about the dynamic and critical role medical research plays in the application of medicine. Explore physiology, medicine, and how advances in technology seek to improve health care.

### Mountain Research Experience

In this five-day residential field course, we will stay at CU's Mountain Research Station and work with CU researchers on a variety of research projects that include ecology and evolutionary biology, entomology, geosciences, limnology, plant ecology, and climate science.

### Science Journalism

Learn how to write, shoot, and edit like a science journalist. Incorporate the elements of photojournalism and audio production to take science reporting to the next level.



## The Tactile Picture Books Project

TOM YEH AND JEEEUN KIM

“We are looking for ways to make 3D printing more accessible and **INTERACTIVE.**”

“There are several interfaces for designing 3D models, such as Google SketchUp, but no program has been created with the needs of parents in mind,” says Tom Yeh, assistant professor of computer science and creator of the Tactile Picture Books Project. “We want to make sure there will be an interface for parents and teachers of the visually impaired, so that they can easily design or simply customize shared 3D files according to children’s developmental levels and print their own tactile books in the near future.”

### RE-ENVISIONING READING WITH 3D PICTURE BOOKS

**A team of students and faculty from the University of Colorado Boulder is creating do-it-yourself 3D printing software to help parents and teachers of visually impaired children design and print their own tactile picture books. The Tactile Picture Books Project could soon re-envision reading between blind children and their parents.**

For generations, countless parents have read the classic children’s book *Goodnight Moon* to help lull little ones to sleep. The poetic text follows a young rabbit as he softly wishes goodnight to his surroundings — “goodnight room, goodnight moon, goodnight cow jumping over the moon,” the story goes. With help from computer science faculty and students, that tender tale has now been translated into a 3D-printed, tactile book for blind children and their families to literally touch, feel, and read together.

*Goodnight Moon* is the first prototype for the Tactile Picture Books Project at CU-Boulder. Flipping through the book’s dense plastic

pages, readers can run their fingers along layers upon layers of tiny plastic threads fused together to make up items like *Goodnight Moon*’s iconic rounded cow. Jeeun Kim, a graduate student in computer science, helped create and fine-tune the model book.

“We chose *Goodnight Moon* because it’s one of the most popular books in America,” Kim says. “We liked that the story is simple and all objects the little bunny says ‘goodnight’ to are easily found in our daily lives, enabling children to imagine what those look like. Also parents can interact with their children by helping them say goodnight.”

Kim and project leaders create tactile story-books that facilitate interaction between adults and visually impaired children at a pivotal time in child development. Thus, the Tactile Picture Books Project explores human-centered computing and involves parents and children in the process of improving 3D printing computer software for tactile books. Led by CU-Boulder Computer Science Professors Tom Yeh and Michael Eisenberg, the project is primed to make 3D printing technology more tangible for the public.

“We are looking for ways to make 3D printing more accessible and interactive,” Yeh says. “There are several interfaces for designing 3D models, such as Google SketchUp, but no program has been created with the needs of parents in mind. We want to make sure there will be an interface for parents and teachers of the visually impaired, so that they can easily design or simply customize shared 3D files according to children’s developmental levels and print their own tactile books in the near future. Our preliminary research found every child is unique.”



## OUTREACH



Tactile books for the visually impaired are not new, but traditional tactile books are often expensive and made by hand. Readers have limited choices. 3D printing poses an opportunity to design, produce, and inexpensively replicate tactile picture books, Yeh says. Soon, 3D printers are expected to be affordable for everyday citizens and there will likely be opportunities to print books at school or from home.

“Currently, tactile books are very beautiful but they are also very labor intensive and expensive,” Yeh says. “Affordable 3D printing technology should be available in the very near future. In two to three years, 3D printers could be less than \$1,000.”

As the public adopts 3D printing, the Tactile Picture Book Project aims to have software and printing instructions at the ready. With support from the CU-Boulder Outreach Committee, the project is currently beta testing software programs with parents and teachers in partnership with the Anchor Center for Blind Children in Denver. The Anchor Center provides educational and therapeutic services for

visually impaired children from birth to age five. The center’s teachers, volunteers, and parents learn about 3D-printed tactile book reading experiences from project faculty and students. Also, they are invited to the do-it-yourself 3D printing course to learn about how to operate a 3D printer and how to share models with others using online databases of open-sourced designs and computer software.

Since producing *Goodnight Moon* and soliciting public feedback, the project has received unexpectedly broad interest and responses from national and international communities. Project faculty and students have since produced printing instructions for two other children’s book favorites, *The Very Hungry Caterpillar* and *The Cat in the Hat*. Their goal is to grow a library of downloadable 3D picture books and puzzles with continued input from their partners in the Anchor Center and interested community members.

To learn more about the Tactile Picture Book Project visit [www.tactilepicturebooks.org](http://www.tactilepicturebooks.org).

### About Outreach at CU-Boulder

Extending educational opportunities to the citizens of Colorado is a vital part of the university as well as the mission of Continuing Education. The Division is home of the Office for University Outreach, which supports campus-wide outreach efforts and connects the university’s research, teaching, and creative resources with communities throughout Colorado and the world.

The office also administers the CU-Boulder Outreach Committee, which distributes funding for outreach projects that engage faculty in mutually beneficial partnerships with external constituents. These awards are made possible by funds from the Office of the Chancellor, the Office of the Provost, and Continuing Education. For more information about the Office for University Outreach and its programs, visit [outreach.colorado.edu](http://outreach.colorado.edu) or email [outreach@colorado.edu](mailto:outreach@colorado.edu).



**Jennifer Burnham**

Enrollment Services Manager

**“We are the first connection students have to Continuing Education, so we know our information needs to be accurate and we must have the students’ best interests in mind. Because all the departments in our division are so close and connected, we are able to be responsive both individually and as a group. We are nimble, so we can be flexible and creative when it comes to meeting our students’ needs.”**

**YOU’VE GOT QUESTIONS. WE’VE GOT ANSWERS.**

Lifelong learning doesn’t mean putting your job, family, or life on hold - and no one understands that better than the staff at Continuing Education. We can help you sort through your academic options, identify financial aid resources, prepare for a career, and more. Visit [conted.colorado.edu/student-resources](http://conted.colorado.edu/student-resources) to learn more or to schedule an appointment with an advisor.

**GETTING STARTED**

**Academic Advising**

Our academic advisors can help you sort through the university options and choose the best course of action. You will find helpful hints for preparing for your appointment at [conted.colorado.edu/student-resources/academic-advising](http://conted.colorado.edu/student-resources/academic-advising).

**Financial Assistance**

Our financial aid advisor can help you determine if there are funds available to help you meet your educational goals. Visit [www.colorado.edu/finaid/continuinged.html](http://www.colorado.edu/finaid/continuinged.html) for more information.

Nondegree students age 22 or older are eligible to apply for one of several Nontraditional Student Scholarships awarded each semester. An application and complete information including eligibility, requirements, and deadlines are available at [conted.colorado.edu/student-resources/financial-aid](http://conted.colorado.edu/student-resources/financial-aid).

**Career Services**

Our career advisor is available for comprehensive career counseling including career exploration and planning, job search assistance, and other career-related guidance. Nondegree students are eligible for eight individual career advising sessions each term they are enrolled. To schedule an appointment or for more information, visit [conted.colorado.edu/student-resources/career-services](http://conted.colorado.edu/student-resources/career-services).

**CAREER EXPLORATION WORKSHOP**

**NCLS 1010**

Want to discover a career passion? Begin to identify who you are through your interests, values, skills, and personality type, in addition to exploring how this information relates to a career. We will integrate various methods for self-assessment and tracking career passions. This hands-on class will assist you in finding a career direction that will bring job satisfaction, whether you are making a career change or just beginning to enter the job market. After the class, you will also have access to the Continuing Education career advisor.

Dahlia Smith, LCSW, is the Career Advisor at Continuing Education. She has been counseling job seekers and changers for over 14 years.

Summer: Tuesdays, May 27-July 1, 5:30-7:30 pm, Continuing Education Center 140, 6 sessions. \$190.

Fall: Wednesdays, October 22-December 3, Continuing Education Center 140, 6 sessions. \$190.

Registration for the fall class will begin March 31.

**ENROLLING IN UNIVERSITY CREDIT COURSES**

If you would like to enroll in courses for University credit answer these questions to determine your next step.

**Are you new to CU, or has it been more than 12 months since you enrolled in a course?**

If yes, then please complete and submit the online Registration/Enrollment Application at [conted.colorado.edu/enroll](http://conted.colorado.edu/enroll). We will process your application and send you an Invitation to Enroll, complete with all of the information you will need to enroll in courses using MyCUInfo.

**Have you been enrolled in a CU course within the past 12 months?**

If yes, give us a call at 303-492-5148 and we can activate your term record in about 2 minutes. You will then be able to enroll online via MyCUInfo at [mycuinfo.colorado.edu](http://mycuinfo.colorado.edu).

**ENROLLING IN THE CAREER EXPLORATION WORKSHOP**

Visit [conted.colorado.edu/enroll/noncredit](http://conted.colorado.edu/enroll/noncredit) for information on how to enroll, call our registration office at 303-492-5148, or visit us at 1505 University Avenue, Boulder.

Once you are enrolled, you will receive confirmation of enrollment including course meeting times and locations. If you have any questions about the registration process, call us at 303-492-5148.



## STUDENT SERVICES

### PAYING

Continuing Education offers a full service bursar/accounting office. You can pay your tuition by check, cash, credit card (VISA, MasterCard, Discover, and American Express), or online from your checking or savings account. Please note that effective August 1, 2013, any payments made to the University of Colorado using a credit or debit card will be charged an additional nonrefundable 2.75% service fee by the card processor. Credit students can also pay using a credit card online at [mycuinfo.colorado.edu](http://mycuinfo.colorado.edu). Visit [conted.colorado.edu/student-resources/accounting](http://conted.colorado.edu/student-resources/accounting) for more information.

If you need confirmation of enrollment and payment of tuition for employer reimbursement, please contact us at 303-492-2212 or by email at [cebursar@colorado.edu](mailto:cebursar@colorado.edu).

### ADDITIONAL INFORMATION

#### Course Updates

Occasionally information printed in this catalog changes. We encourage you to verify your course information such as course locations, cancellations, etc. before traveling to campus for your class. You will find the most up-to-date information at [conted.colorado.edu](http://conted.colorado.edu).

We try to notify enrolled students of course changes by email and telephone. We therefore encourage you to let us know if your contact information changes.

#### Student Privacy

You may elect to have directory information withheld about yourself. Please call or visit our office to receive the required form.

#### Disability Services

If you are a student with a disability, Disability Services can provide you with the tools, accommodations, and support services to engage fully in the academic environment. Visit [disabilityservices.colorado.edu](http://disabilityservices.colorado.edu) for more information.

### Accessing Campus Services

As a Continuing Education student, you may be eligible to use the campus libraries and computer labs at no cost. To gain access to these campus services, please obtain a “no fees paid” sticker (available at the Continuing Education cashier’s window) and bring the sticker and a photo ID with you when you plan to use the libraries or computer labs. You can also purchase a student ID, the Buff OneCard, at the Buff OneCard office in the Center for Community, room N180, by presenting a copy of your student schedule and photo ID. Visit [www.BuffOneCard.com](http://www.BuffOneCard.com) for more information.

### Severe Weather

Classes are held when scheduled. Campus closings are announced on local radio and television stations and on the CU website at [www.colorado.edu](http://www.colorado.edu). You will also find cancellations on Facebook ([facebook.com/CUContinuingEd](http://facebook.com/CUContinuingEd)) and Twitter (@CUContinuingEd).

### Books and Supplies

Required course materials are available at the CU Book Store in the basement of the University Memorial Center on campus. Call 303-492-6411 or visit [www.cubookstore.com](http://www.cubookstore.com).

### FAQS

#### How much will my course cost?

Costs vary depending on the course. For the Career Exploration Workshop, you will find the cost at the end of the course listing. For Boulder Evening, tuition is different for Colorado residents and nonresidents. Independent Learning tuition is different depending on whether the course is undergraduate or graduate level. Information on tuition and residency can be found at [conted.colorado.edu/tuition](http://conted.colorado.edu/tuition).

Continuing Education tuition is charged separate from and in addition to other CU tuition. All tuition and refund determinations are subject to audit.

### Where do I get a record of my classes?

If you need a record of your academic credit courses, request a transcript through MyCUInfo at [mycuinfo.colorado.edu](http://mycuinfo.colorado.edu). You can also visit the CU registrar’s website at [www.colorado.edu/registrar](http://www.colorado.edu/registrar) for other options.

For a record of your noncredit courses, email our enrollment services office at [ceregistration@colorado.edu](mailto:ceregistration@colorado.edu) or call 303-492-5148.

### Where is my class? Is there parking nearby?

Course locations are listed at the end of each course description. Many campus parking lots offer \$4.00 parking after 5 pm and on Saturdays. Some are free during evenings and weekends. The Campus Map at [www.colorado.edu/campusmap](http://www.colorado.edu/campusmap) gives both building and evening and weekend parking lot locations. To skip parking altogether, take the bus to campus.

### What if my plans change and I have to drop my class?

Please let us know. Depending on when you drop a course, you may receive a full refund. Refer to each program description for refund policies after a course begins.

Please note: Nonattendance does not constitute withdrawal and you may still be charged for your courses unless you officially withdraw before the drop deadline.

Call us at 303-492-5148 or 800-331-2801 (TTY 303-492-8905) if you need any help or for additional information visit [conted.colorado.edu](http://conted.colorado.edu).

### Building Hours/Closures

Our office hours are 8 am to 5 pm Monday through Friday. Effective Friday, May 10 through Friday, August 15 our office hours will be 7:30 am to 4:30 pm Monday through Friday. CU-Boulder will be closed Friday, March 28, Monday, May 26, and Friday, July 4.



#### Alumni Discounts Available

For more information visit [conted.colorado.edu/student-resources/accounting/discounts](http://conted.colorado.edu/student-resources/accounting/discounts)

At the University of Colorado Boulder we are committed to building a campus community in which diversity is a fundamental value. People are different and the differences among us are what we call diversity—a natural and enriching hallmark of life. Diversity includes, but is not limited to, ethnicity, race, gender, age, class, sexual orientation, religion, disability, political viewpoints, veteran status, gender identity/expression, and health status. A climate of healthy diversity is one in which people value individual and group differences, respect the perspectives of others, and communicate openly.

Diversity is a key to inclusive excellence in education. A diverse learning environment better prepares all students for the world that awaits them. CU-Boulder is committed to enriching the lives of our students, faculty, and staff by providing a diverse campus where the exchange of ideas, knowledge, and perspectives is an active part of learning.

—from the Guidelines for Diversity Planning

The University of Colorado Boulder does not discriminate on the basis of race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, political affiliation or political

philosophy, or veteran status in admission and access to, and treatment and employment in, its educational programs and activities. The university takes affirmative action to increase ethnic, cultural, and gender diversity, to employ qualified disabled individuals, and to provide equal opportunity to all students and employees.

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## GATEWAY TO POSSIBILITY

The Division of Continuing Education serves as a gateway between students and the CU-Boulder campus. Undergraduate students can find classes that fit their schedule through Boulder Evening or Independent Learning with self-paced and term-based online courses. Local residents can explore their passion, discover a new one, or finish their degree through CU Complete. CU Continuing Education makes almost any pursuit possible.

