# Colorado College



For more than 50 years, the Summer Session at Colorado College has offered unique graduate courses for educators who have previously earned their teaching credentials. All of our courses are part of an Experienced Teacher M.A.T. program, but also open to any non-degree seeking teacher. Our distinctive program offers teachers the opportunity to engage in critical thinking and explore subject content in the context of the liberal arts. More recently, we have included more specialized training in literacy intervention. Whether you are looking for licensure renewal, new endorsements, certification, or professional development, at Colorado College, educators expand their knowledge of the world through interdisciplinary graduate institutes, colloquia, and other seminars.

Colorado COLLEGE

All courses are open to any K-12 teacher. Courses may apply to our **master of arts in teaching** degree program.

2012 session begins **June 4** and ends **August 3**. One- to six-week courses available

■ 1–8 semester hours

- Upgrade your license
- Earn credits to increase your salary or toward a master's degree
- The teacher scholarship is an automatic 50 percent reduction in our summer tuition, from \$690 to \$345 per semester hour

For an overview of our M.A.T. programs, visit: www.coloradocollege.edu/summersession/GRADMAT/

## See what we have to offer for summer 2012!

#### The Literacy Intervention Specialist Program

The Colorado Literacy and Learning Center (CLL) and Colorado College continue to offer the **literacy intervention specialist program**, an intensive training course for individuals seeking to learn the most effective, research-based strategies of remediation in reading and written-language skills. The literacy intervention **specialist program** provides in-depth training for teachers and therapists working with individuals with literacy challenges, including dyslexia and related disorders. The two-year program may be taken alone, or teachers may apply all coursework toward the liberal arts master of arts in teaching at Colorado College.

CLL's **literacy intervention specialist program** is the only training course in the state of Colorado accredited by the International Multisensory Structured Language Education Council (IMSLEC). Course content reflects the International Dyslexia Association's (IDA) Knowledge and Practice Standards for Teachers of Reading.

Individuals completing coursework may sit for the national Alliance Exam to qualify for certification with the Academic Language Therapy Association (ALTA) as a certified academic language practitioner (CALP) or as a certified academic language therapist (CALT):

#### **Certified Academic Language Practitioner (CALP):**

- Completion of Year One
- 60 clinical teaching hours Five observations
- Nine-month minimum

#### **Certified Academic Language Therapist (CALT):**

- Completion of all course requirements
- 700 clinical teaching hours
- Ten observations
- Minimum two up to five years allowed

All training is built upon Take Flight: A Comprehensive Intervention for Students with Dyslexia, an Orton-Gillingham research-based and validated curriculum from the Luke Waites Center for Dyslexia at Texas Scottish Rite Hospital for Children.

- Trainees will gain understanding in: Structures of written English and the five components of reading.
- Instructional strategies and methods (simultaneous, multisensory, systematic, cumulative, direct instruction, diagnostic teaching, synthetic, and analytic instruction).
- Progress monitoring for accuracy and fluency.
- Dyslexia, related written-language disorders, and identification of specific learning differences.

#### **Course Requirements:**

### First Summer/Year Courses:

- Literacy Essentials: The Five Components of Reading Plus (2 semester hours)
- Introduction to Reading Intervention (3 semester hours)
- Literacy Practicum I (4 semester hours)

A total of 140 contact class hours

#### **Second Summer/Year Courses:**

- Advanced Reading Intervention (3 semester hours)
- Literacy Practicum II (4 semester hours)

A total of 80 contact class hours

#### Reading Institute Courses — Literacy Intervention Specialist Program

Literacy Intervention Specialist Program 2012 for First Summer/Year All classes held from 9 a.m.-5 p.m.; all courses are taught by Lynne Fitzhugh

#### Literacy Essentials: The Five Components of Reading, Plus June 4-12; 2 semester hours

new regulations and their implications for the schools as related to dyslexia.

This course is open to all teachers, regardless of whether one continues in the program. This course will provide a broad framework for understanding reading problems in the classroom, including how children learn to read, why many students have reading difficulties, and what teachers should know to help those who struggle. Based on solid, convergent evidence, teachers will gain an understanding of reading development, dyslexia, and components of effective instruction for dyslexic students and those at-risk for reading failure. Teachers receive instruction in the psychology of reading and reading development, including the neurobiology of reading and information processing; dyslexia and other causes of reading failure; the importance of direct instruction in phonological skills; structure of the English language; multisensory instructional strategies for reading and spelling; overview of reading intervention programs; school-based identification of dyslexia; and a brief overview of the

**Introduction to Reading Intervention** 

Fitzhugh

Fitzhugh

June 13–22 and five Saturday seminars throughout 2012–13, TBD; 3 semester hours This intensive training course is designed to enhance teaching abilities and further of the course in the summer include some reading and lectures; the remaining course time

education in the field of reading and reading disabilities, including dyslexia. The first few days will take place throughout the school year. Teachers will be trained in a specific research-based program for classroom use. Teachers will receive personal support and feedback.

2012-13 school year; 4 semester hours

Fitzhugh

**Literacy Practicum 1** Teachers will receive clinical supervision for 9 months to include a minimum of 75 hours

of instruction in program and five observations. A minimum of five video-taped observations must

College and The Colorado Literacy and Learning Center as reading intervention specialists.

be submitted for review. Teachers completing all coursework will receive certification from Colorado

Literacy Intervention Specialist Program 2012 for Second Summer/Year All classes held from 9 a.m.-5 p.m.

Fitzhugh

**Advanced Reading Intervention** July 16-July 20 and 5 seminars throughout 2012-13, TBD; 3 semester hours

This course continues to enhance teaching abilities and further education in the field of reading and reading disabilities, including dyslexia. The course will include some further reading and lectures and continued training in specific research-based programs for classroom use; the remaining course time will take place with five Saturday seminars throughout the school year.

Fitzhugh

#### **Literacy Practicum 2**

2012-13 school year; 4 semester hours

Teachers will receive clinical supervision for 9 months to include a minimum of 75 hours of instruction in program and five observations. A minimum of ten video-taped observations must be submitted for review. Teachers completing all coursework will receive certification from Colorado College and The Colorado Literacy and Learning Center as reading intervention specialists. Supervision of all clinical teaching hours is included.

Lynne Fitzhugh received her Ph.D. in psychology from Southern Methodist University with a concentration in learning disabilities. She is a certified academic language therapist and qualified instructor. Fitzhugh is an expert in reading, as well as dyslexia and related learning disabilities, and serves on the board of the International Dyslexia Association. Her publications include various articles on dyslexia, writing disabilities, teacher preparation,

Before enrolling in the above courses, all interested teachers must attend an informational session. The session will detail the literacy intervention specialist program's curriculum and course requirements as well as national certification eligibility from the Academic Language Therapy Association (ALTA) once the course is completed. Please call 389-6656 or 227-0026 to make an appointment. For more information, please contact The Colorado Literacy and Learning Center at 227-0026.

The informational sessions will be held at the Colorado College summer program office, 1130 N. Cascade: ■ Thursday, March 1, 4–5 p.m.

■ Thursday, April 19, 4–5 p.m.

#### **Experienced Teacher Institute**

This institute is part of our 40-year history at Colorado College of providing interdisciplinary institutes for experienced teachers of all levels. Our institutes are designed to enhance teachers' scholarship, writing abilities, and understanding of their classroom practice through the in-depth, inquiry-based study of specific topics within the arts and sciences disciplines. While many teachers enroll in these institutes while earning a master's of arts in teaching degree, these courses are open to non-degree seeking teachers as well. All MAT candidates must enroll in two institutes of their choosing while in the program.

GS 554 **Experienced Teacher Institute:** 

June 4-July 13; 8 semester hours

Teuton, Tiongson, Werner Coming of Age — The Culture and Literature of Youth in America

This six-week institute focuses on the history, social construction, and culture of American youth. Emphasizing the diversity of young people's experience, this course will give particular attention to the challenges of education in a rapidly changing multicultural society. Drawing on the teaching team's broad range of academic preparation — in sociology, American literature, African American studies, ethnic studies, Native American studies and cultural studies — the institute will provide participants with the opportunity to address the issues they face in their specific institutions. Beginning with a unit on the historical construction of childhood and youth in America (directed by Tony Tiongson), the Institute will continue with units devoted to 1) a reconsideration of a set of key texts which have shaped American attitudes towards growing up;
2) the history and cultural premises of Native American education; and 3) a cross-section of issues facing contemporary youth, including the impact of war, bilingual education, the relationship between poverty and drug use, and the changing forms of popular culture. The texts include readings from history, sociology and media studies in the first unit; and both classic and contemporary novels in the remaining units. Youth-centered films are incorporated into each of the units. The course requirements include a sequence of e-mail posts which will be used to shape class discussion; the development of a syllabus and class plans related to the individual

will be used to stape class discussion, the development of a sylladus and class plants elacted to the individual meeds of participants; and participation in a mini-symposium on "Youth and Education in the 21st Century."

Christopher B. Teuton is associate professor of English at the University of Victoria. He is a citizen of the Cherokee Nation and teaches indigenous literature, multicultural literature, and American literature. In 2009–10, Prof. Teuton completed "Cherokee Stories of the Turtle Island Liars' Club," a collection of contemporary Cherokee oral traditional stories at the School for Advanced Research on the Human Experience in Santa Fe, N.M.

Antonio T. Tiongson Jr. is an assistant professor in the race and ethnic studies program at Colorado College.

He is co-editor of the anthology, "Positively No Filipinos Allowed: Building Communities and Discourse" (2006). His research interests include youth cultural politics, comparative racializations, and empire.

Craig Werner, C.C. alum ('73), has won teaching awards at the department, campus and national levels. He teaches in the Departments of English and Afro-American Studies and the Integrated Liberal Studies program at the University of Wisconsin-Madison. He has worked extensively with community-based educational initiatives intended for at-risk youth and low-income adults. As a consultant to the New Jersey Project on Inclusive Scholarship, Curriculum & Teaching, he developed a wide range of teaching aides encompassing Native American, Asian American, Latin@ and Chican@, African American and recent immigrant literature and history. He is a member of the Nominating Committee of the Rock and Roll Hall of Fame, a frequent contributor to National Public Radio, and documentaries on subjects ranging from Woody Guthrie and garage rock to Aretha Franklin and Hip-Hop education.

Colloquia

(afternoon and evening courses)

These courses are open to all teachers and may be taken while enrolled in other "block" or institute courses. During the summer, these courses meet only in the afternoon or evening. Some may take place during the next academic year. The seminar in the performing arts and the film courses are part of a broader summer arts festival at Colorado College. All courses are 1 to 2 semester hours.

Berg DS 509 **Iyengar Yoga** 

May 30-June 15; Mondays, Tuesdays, Wednesdays, Thursdays 4:30 – 6 p.m.; 1 semester hour
This course introduces the student to the movement and techniques of hatha yoga, based on the
teaching of B.K.S. lyengar. This form of yoga emphasizes careful attention to alignment in the poses, as well
as sequences that balance our energy. The practice of yoga comes in many forms, although ultimately the purpose is singular – that is, to penetrate the multiple layers of consciousness in order to experience the unity of mind, body, and spirit. We begin this lofty journey with asana practice, or the practice of postures, which bring the body and mind into harmony. Along the way, physical problems of all kinds are addressed and relieved so that the body does not become an obstacle to personal growth. Iyengar yoga is known for its precise attention to alignment and rigorous physical and mental discipline. Although strenuous, this course is open to beginners and more seasoned practitioners, as well as those who have physical challenges.

Peggy Berg retired as professor of dance at Colorado College in 2011 where she taught many courses in

modern dance and improvisation since 1980. She began to seriously study lyengar Yoga 13 years ago, and has been certified as a yoga teacher in this system. She lived and studied for two months in Pune, India, in 2005, studying directly under the lyengars.

ED 518

Colloquium:
Public Education: Policy, Reform, and the Future
June 4–15, 1–3 p.m; 2 semester hours

The purpose of this class is to provide a venue for students to explore the issues of curriculum change and reform as it affects contemporary public schools. The starting point for the course will be the No Child Left Behind Act of 2001 (NCLB), which is the most recent Congressional reauthorization of the Elementary and Secondary Education Act. More than any other piece of legislation, NCLB represents the greatest intrusion of federal authority on the conduct of American public schooling. We will look both at the legislation itself to consider what it means for the school curriculum, specifically the standardized testing evolution, as well as to place the legislation in its historical and social context.

Questions to be asked: What do the critics have to say about the legislation itself and about the accountability regime of which it is a part? What are the other contemporary curriculum reforms that can either be seen as complements to NCLB and its underlying accountability regime or as alternatives? What are the impacts of standardized testing and the high stakes attached for schools, teachers, and students? We will further investigate charter schools/vouchers, public-private partnerships, small schools/smaller learning communities, education for social justice, and the democratic schools movement.

Megan Sheppard is chair of the math department at Carmel Middle School in Harrison School District 2 in

Colorado Springs and the 2010 Distinguished Teacher of the Year. Sheppard was one of the key organizers of the 21st Century Grant, proposing and organizing a partnership with the Catamount Institute. She coordinated the development and planning of Camp Carmel for Summer 2010. She has taught Youth Empowerment Theory and Mentoring At-Risk Youth in the Education Department at Colorado College. Before coming to Colorado Springs, Sheppard taught for seven years in San Lorenzo, Calif.

ED 518

Kannan Colloquium: An Introduction to the Individuals with Disabilities Education Act (IDEA)

June 18–22, 1–3 p.m.; 1 semester hour
In 1975, Congress enacted the Individuals with Disabilities Education Act (IDEA) to open up public education to millions of disabled children. IDEA works by recognizing rights for children and their parents and imposing obligations on schools and school districts. The interplay of rights and obligations has had a dramatic effect on staffing, curriculum, budgets, schedules, and all major school policies. In this colloquium we will explore the rights and obligations arising under IDEA and the role of courts in enforcing them.

Phil Kannan is distinguished lecturer and Legal-Scholar-in-Residence at Colorado College. He has taught courses in education and environmental studies, and Southwest studies at Colorado College since 1997. He has taught numerous graduate colloquia, and taught in two previous summer institutes. He received his J.D. from the University of Tennessee College of Law.

ED 518 Colloquium:

Dancing Off the Stage and into the Classroom: Integrating Dance into the Curriculum June 25–29, 1–3 p.m.; 1 semester hour

Teachers will re-imagine teaching techniques for the benefit of student learning. The goal is to both provide teachers with new tools and to provoke new approaches to teaching through movement activities. This course will expose teachers to practical movement exercises coupled with lesson planning and reflection. No dance experience is necessary to participate in or enjoy this colloquium.

Shawn Womack is chair of dance and drama at CC and taught for eight years at Grinnell College before coming to Colorado College. Womack has worked for more than 20 years in arts education as a teacher, consultant, and artist in education. She has participated in teacher training programs for elementary and secondary school teachers in Ohio, Kentucky, California, and Connecticut. Teachers in Ohio were instrumental in Womack receiving the 1996 Governor's Award for the Arts in the category of performing artist. In 1999, she designed and directed a teacher training program and assessment in Cincinnati as a replicable model for theatre and dance integration.

Grace, M. Colloquium: Seminar in the Performing Arts -

The Colorado College Music Festival, Art Criticism, and Community Outreach Various concert evenings, from June 4-20 (first meeting TBD);

1 or 2 semester hours (with consent of instructor)

This course will focus on the study and review of concerts presented by the CC Summer Music Festival. Students will attend three pre-concert lectures, three concerts, and three post-concert lunch meetings (bring your own) at which students will read their reviews aloud and discuss each others' opinions of the performance and the music itself. In addition, there will be one class on writing music reviews and one panel discussion on the arts and community outreach. Students are not required to have any musical background and can write reviews that are not theoretical or analytical in nature. Students may enroll for an additional semester hour by undertaking an independent research project related to the Summer Music Festival. The kind of research that would be acceptable includes marketing analysis, student outcome evaluation, festival management, audience development, and others. Students who would like to pursue this will have to propose a research project before enrolling for the extra credit.

Michael Grace, professor of music, has been a member of the Colorado College faculty since 1967. He is director of the Collegium Musicum at Colorado College. As a music historian, Grace's research has included investigations in the 17th-century oratorio, performance practices in the Renaissance and, most recently, his teaching has focused on music history, as well as topics courses on Mozart, American Music, 20th-Century Music, and interdisciplinary courses in Renaissance culture and the history of art and music.

Haskell, Nelson

HS 512

Studies in Cinema: The Message is the Media

First series:

3 Tuesday evenings at 6:30 p.m. from June 21–July 5; 1 semester hour

3 Tuesday evenings at 6:30 p.m. from July 19–August 2; 1 semester hour Second series: 3 Tuesday evenings at 6:30 p.m. from July 19-August 2; 1 semester hour The ways we obtain information and entertain ourselves have changed radically over the past 100

years. From the printed page to the silver screen, from the 'talking box' to the World Wide Web, media has undergone a series of revolutions in presentation, in ethics, and in content. What is 'the media,' and how are its transition points depicted in movies? How does the constantly changing media landscape affect not only those who consume media, but also those who create it? This series will examine several fiction and documentary films that shine a light on the evolutions and circumlocutions of our slippery media culture. Films may be selected from: Singin' in the Rain; Meet John Doe; Citizen Kane; Medium Cool; Broadcast

News; War Games; Network; Being There; The People vs. Larry Flynt; Good Night, and Good Luck; Shattered Glass', Quiz Show; The Insider; The Most Dangerous Man in Ámerica'; Outfoxed; Page One: Inside the New York Times; Catfish; The Social Network; and The Hollywood Complex. Dylan Nelson, M.F.A, is an Emmy- and Producers Guild Award-nominated filmmaker. She directed and

produced the documentary feature "The Hollywood Complex" (2011), which premiered at Hot Docs and will have its major broadcast debut in 2012. She also produced "Soundtrack for a Revolution" (2009), about the music of the American civil rights movement, which premiered at the Tribeca Film Festival and the Festival de Cannes and aired on PBS's "American Experience." Both "Soundtrack" and her other film, "Nanking" (2007), were shortlisted for the Oscar® for Best Documentary Feature.

Clay Haskell, M.F.A., is a writer, director, and photographer. He was a Fulbright Fellow in photography and received a Sloan Fellowship for screenwriting from the American Film Institute. He shot and co-produced the documentary feature "The Hollywood Complex" and is currently directing a feature documentary, "Mississippi Messiah," about civil rights icon and iconoclast James Meredith.

All of these courses are available following our graduate institute and run July 16-August 3;

all are 4 semester hours of credit

These courses, like our institutes, are all intensive block courses and typically meet 9 a.m. to noon.

In some cases, you might have an afternoon session for library work, viewing a film, or a field assignment. Most of these courses are open to both undergraduates and graduate students.

GS 520 Copeland The Psychology of War

In this course, we will employ tools of psychological research to engage in critical thinking about war and human violence. We will address a variety of interrelated questions such as: How do we define war? What are the evolutionary, cognitive, psychological, and social forces that enable war? What are the psychological consequences of perpetrating, witnessing, or being a victim of violence in the context of war? What function does war serve in shaping culture, and vice versa? In approaching these questions, we shall learn to think as skeptics, as scientists, and as epistemologists. We will consult a range of source materials from across the social and behavioral sciences, bridging perspectives from primatology, psychological science, cultural studies, and neuroscience. In addition, throughout the course we will explore the ways in which memoir and documentary serve a generative function in deepening scientific examinations of war.

Jessica Giles Copeland is Visiting Assistant Professor of Psychology and Associate Director of the Partnership for Civic Engagement at Colorado College. Trained as a developmental psychologist, her work has focused on social cognition, masculinity, and violence, particularly in the context of war. In addition to her university research and teaching, she has also provided strategic intelligence support under the National Intelligence Directorate on the prevention of human trafficking, and is married to a combat veteran.

Grace, E.; Grace, J.

**Liberty and Equality** 

This course explores the question of whether there is a fundamental justification for democratic rule by analyzing diverse defenses and critiques of the claims that democracy is founded on the truth of human equality and best provides for individual liberty. We will focus on the political philosophers, Thomas Hobbes, Alexis de Tocqueville, and Jean Jacques Rousseau. Political philosophy is not only a subject but an activity: it requires us, as it teaches us, to explore, dissect, interpret, and weigh the arguments that we and others make about the most important moral and political issues and experiences. In order to progress in one's understanding of complex human phenomena, one has carefully to consider how others have examined those phenomena; to consider what others have to say and to "listen" to them. In this course, one is expected

to enter into a dialogue, as it were, with the authors, pressing them to explain themselves ever more fully.

Eve Grace has taught at Colorado College since 1993. She studied political philosophy at Harvard University and at the University of Toronto. She has authored a number of articles and chapters on Rousseau's thought, co-edited a number of volumes of Rousseau's works, and co-edited a volume of essays entitled "The Challenge

of Rousseau" (forthcoming, Cambridge University Press, 2012).

John Grace has studied political philosophy and literature at Kenyon College, the University of Chicago, and the University of Toronto. His interests include the study of early modern European, as well ancient Roman, works of political philosophy, and the exploration of the basic problems of political philosophy through literature.

HS 514 Cicala, Reed

**Cultivating Creativity through Visual Literacy** 

The class combines studio assignments, the exploration of theories about the visual arts and arts instruction, technical demonstrations, discussions, readings, and student-led presentations. It will challenge the common opinion that art is of peripheral value in a standard curriculum, or only appropriate for creatively gifted students.

Instead, we will explore ways that making and looking at visual art can help all students at every level to improve their capacity to express themselves, solve problems, and engage creatively with the visual world that surrounds them. The course will explore both "project-driven" and "process-oriented" approaches to teaching art. Students will be equipped with a variety of "tried-and-true" projects currently enjoying success in existing K-12 art curricula, and also challenge the tendency to teach art in a controlled manner that predetermines an outcome. We will engage daily with works by fine artists as well as images from our contemporary visual culture, including advertising, digital photography, and all things web-related. Our emphasis on materials and craft will grow from a foundation in drawing and printmaking – particularly for students and teachers who think they can't draw! – and include collage, sculpture, and tactile media that play a vital role in engaging students who benefit from active physical involvement with materials beyond the confines of a school desk the confines of a school desk.

Luigi Cicala graduated magna cum laude from Colorado College with distinction in art, and has a M.F.A.

Luigi Cicala graduatea magna cum laude from Colorado College with alstinction in Art, and nas a M.F.A.
from New York Academy of Art. He is a contemporary painter and sculptor active in New York City where he also
teaches professionally. As a contemporary Surrealist, Cicala reinterprets images and objects encountered by chance
in daily life. Neoclassical training and a keen interest in art history, myth, and religious symbolism inform his work.
Carl Reed is professor emeritus in art at Colorado College. He received his B.A. from Dartmouth College,
and his M.F.A. from the Pratt Institute. He is a well-known sculptor and has won more than a dozen awards both
locally and internationally for his work. His public projects frequently incorporate landscaping, lighting, water,
and such functional elements as sculptural seating, in order to fully compose a site and make it viable at any hour and in all seasons. Originally from the Hudson River Valley, Carl has lived in the West since the mid 1970's.

HS 520

Young Adult Literature
This course is an investigation and discussion of what constitutes young adult literature and how it can be integrated into a variety of curricular areas. In addition to research students are encouraged to create practical applications and creative techniques for using fiction and non-fiction works specifically written for students in grades 7–12 in the two required projects. Students will also discuss the process of creating and

publishing with authors of young adult works.

Frank Mosher is a former teacher in District 11 schools and currently works as a research librarian at Tutt Library at Colorado College. He has taught this course for teachers for more than 10 years and supervised many master of arts in teaching thesis projects.

HS 520 Cohick **Book Arts and Letterpress** 

This course provides an introduction to the basic skills and problems of designing, printing, and binding books by hand. Students will learn the foundational elements of letterpress printing: typography, hand typesetting, page composition, and how to set up and print on a Vandercook proofing press. This course will cover a variety of bookbinding techniques, ranging from very simple books made by cutting and folding a single sheet of paper, to completely hand sewn and bound hardcover books. Class discussions and lectures will focus on the history and cultural contexts of books and printing. Our discussions in class will be augmented by looking at and handling actual books and prints — both historical pieces and contemporary

adjinisted by Jooking at an Infamining actual books and primise—book and primise—book and at Infamining actual books and at Special Collections in Tutt Library.

Aaron Cohick has been the printer at the Press at Colorado College since 2010. He received a BFA in painting from the Maryland Institute College of Art, and an MFA in printmaking from Arizona State University. Before coming to Colorado College, he worked as a commercial letterpress printer in San Francisco and taught at the San Francisco Center for the Book. Cohick is also proprietor of New Lights Press, an independent publisher of experimental literature and prints. experimental literature and artists' books.

Sheppard

Womack

Faith and Reason: Partners in the Quest for Knowledge

The history of religious and scientific explanations about the workings of the world has often been oppositional, and the conclusions they've reached incompatible. Operating from the premise that each is a valid means to discovering the truth, this course will examine the strengths and limitations of both disciplines. The first week of the block will focus on scientific/rational/experimental ways of knowing. Week two will examine religious/spiritual/contemplative approaches to truth; students will be required to write a spiritual autobiography. During week three, students will explore ancient and new ways of knowing which encompass both faith and reason. These ways of knowing include ideas revealed in taxts. knowing which encompass both faith and reason. These ways of knowing include ideas revealed in texts such as "Native Science," "Einstein's God," "Original Wisdom," and "Blackfoot Physics." Students will chose one of these ways of knowing and explore it in depth as individuals or in groups.

Sally Meyer is professor of chemistry and director of the Hulbert Center for Southwest Studies at Colorado

College. She teaches courses in both chemistry and environmental science. Her research interests are in physical chemistry and looking into energy conservation, energy efficiency, and renewable energy technologies. She also helped create the student energy-auditing and retrofitting program at Colorado College and coauthored, "The Energy Retrofit of a Building: A Journey Through Bloom's Learning Domains. Sally and her husband, Mark Morgenstern were the first faculty to win the Colorado College Sustainability Award.

Tom Stella is a visiting associate professor in the religion department at Colorado College, a hospice chaplain, spiritual director, retreat facilitator, and the author of two books, "The God Instinct" and "A Faith Worth Believing." He holds graduate degrees in theology (University of Notre Dame), counseling (University of Michigan), and spirituality (Jesuit School of Theology, Berkeley). He is the co-founder of Soul Link, Inc., a local nonprofit whose mission is to create opportunities for spiritual seekers to meet and nourish one another's spirituality.

**Integrated Natural Sciences Courses** 

These courses are part of the new Integrated Natural Science Master of Arts in Teaching Program. Support is provided to Colorado Springs District 11 Elementary Teachers by a Colorado Math-Science Partnership Grant, but any teachers may apply and participate in the program at Colorado College. The first set of courses start prior to Summer 2012 and some continue through the 2012–13

Jacobs, Taber Colloquium: How Students Learn Math and Science 5 meetings late March through May 2012; 2 semester hours

The course takes a brain-based approach to learning how elementary school age children think about

and develop math and science logic and reasoning. Bob Jacobs is professor of psychology at Colorado College. He has taught many "Teacher As Scholars" seminars on learning and the brain. His research interests are in neuroscience, language acquisition, non-human animal communication, cognitive neuroethology, evolutionary biology, comparative neuroanatomy.

Mike Taber is director of the current INS program and associate professor of education at Colorado College. He has been a science educator for more than 20 years, starting with teaching middle school science after receiving his M.A.T. at CC in 1987. He received his Ph.D. in water resources in 1999 at Iowa State and returned to his alma mater, Colorado College in 2006.

Anderson, Chetty, Gilliam, Taber GS 515

**Integrated Natural Science Institute:** Understanding Water Hydrology in the Western United States June 4 – July 13; 8 semester hours

This course focuses on how scientists and mathematicians apply physical understanding about Earth and associated mathematics to model observed processes. The course takes a problem-based, site-based approach to investigate traditional sedimentologic (environmental history), geomorphic (evolution of the land surface) and ecosystem (tree-line change) inquiries with surface water hydrology in the arid western U.S. in order to attempt to answer important societal policy questions about water use, drought, flooding, and the lifespan of our water-storing reservoirs. These questions are important for anyone living in the west, therefore would be very relevant and motivating for students in the Colorado Springs area.

Megan Anderson is assistant professor of geology at Colorado College and is the resident geophysicist. She received her B.A. from Carleton College and her PhD from the University of Arizona. Her wide variety of teaching and research avenues reflect her philosophy that the strongest science interdisciplinary. Her research interests include tectonics, including Earth structure, kinematics of rocks in the subsurface, and the dynamics of driving forces for plate tectonics.

Sunil Chetty was a Riley scholar (post-doctoral) in the department of mathematics and computer science at Colorado College from 1999–2011. He is currently an assistant professor in the math department at the College of Saint Benedict/Saint John's University in central Minnesota. While at CC, Chetty taught in the MAT program for elementary teachers. His objective was to balance exploring substantial mathematical content, making the material relevant to teaching, and finding ways to demonstrate to the students that learning mathematics is an individualized journey. Rather than seeing mathematics as a long list of formulae and number crunching, with only one path to the right answer. Chetty helps students and teachers work to find a contiguous thread of topics which lie behind the material that is central to the mathematics studied in the elementary grades.

Sandy Gilliam is instructor and supervisor for both elementary and secondary math candidates, and teaches all math methods courses at Colorado College. She has a M.A. in education from San Jose State University. She is a national board certified teacher in adolescent and young adulthood mathematics, and she holds a professional and master teacher certificate in secondary mathematics in Colorado. She won the Presidential Award for Excellence in Mathematics from the National Science Foundation and a Carnegie Scholar, and was a recipient of the George Polya Memorial Award from the California Mathematics Council.

Action Research Methods for Integrated Natural Science MAT's

Course will meet periodically throughout June 4 – July 13; 2 semester hours

The focus of this course is to introduce experienced teachers to the methods of conducting educational research in their practice. The course provides a broad overview of the classroom-based research process, designs for data collection, and tools for conducting analysis.

ED 515 **Integrated Natural Science Seminar** 

Kuerbis, Taber Saturdays throughout the 2012-13 school year; 3 semester hours

Taber

The M.A.T.-INS program includes a series of seminar-workshops on six Saturdays during the academic year following both the first and second summers of the program. In addition, teacher-participants will be expected to implement their classrooms modules they design or refine during the summer, conduct some classroom-based research, and prepare themselves to become leaders in their school settings.

Paul Kuerbis, professor of éducation and former director of the Crown Faculty Center and Colket Learning Center at Colorado College, and creator of the Integrated Natural Science Program, has been at Colorado College since 1973. He has received several multi-million dollar National Science Foundation grants to support teachers in science education. He has contributed to and co-authored numerous books and reports for the National Academy of Science.

Colorado College's Master of Arts in Teaching degree

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