The purpose of The Emeritus College is to give a home and a focus to continued intellectual, creative and social engagement of retired faculty with the University. The Emeritus College fosters and promotes the scholarly and creative lives of its members, prolonging engagement with and service to the University and community. The Emeritus College provides the University a continued association with productive scientists, scholars and artists who have retired from their faculty positions but not from their disciplines.

Contact Information

Old Main, Room 102
PO Box 873002
Tempe, AZ 85287-3002
Telephone: (480) 965-0002
Fax: (480) 727-3324

www.emerituscollege.asu.edu
emerituscollege@asu.edu
The Emeritus College at ASU consisting of more than 500 retired professors with emeritus standing from Arizona State University and other universities provides its members with opportunities to lecture and teach beyond campus boundaries. Civic, service, religious and other community organizations, who wish to schedule specific lectures, workshops or short courses, are invited to make their selections from this guide.

Organizations who wish to invite lectures, workshops or short courses on topics other than those found in this guide may also contact the College and an attempt will be made to provide an expert speaker or instructor.

Lectures are usually 50 to 75 minutes in length, depending on the requirements of the host organization. Workshops are typically a bit longer ranging from one hour to several hours. Courses, typically at the university “general studies” level, vary from three to ten lectures of one or two hours each and do not carry college credit.

Compensation to speakers depends upon the nature of the host organization. Single lectures are presented gratis to service and other non-profit groups, although honoraria are appreciated. Courses usually will require a modest stipend. Remuneration details as well as audio-visual and other special requirements should be negotiated with the speaker.

**HOW TO USE THIS GUIDE**

Use this Guide to select lectures, workshops or courses on topics that are of interest to you and your organization. Once you have one or more topics selected, pick the desired date(s) and time(s) that you would like to have the presentation(s). Flexibility with scheduling can be helpful. Then contact the College at 480-965-0002 or emerituscollege@asu.edu. We will then put you in contact with the instructor to make the arrangements.

- Available as a single lecture
- Available as a course
- Available as a workshop
The Accelerating Universe: Inflation, Dark Matter and Dark Energy

This talk is about Cosmology, dealing with the large-scale Universe, and its origin and evolution. Over the last few decades, we have learned of several new and “mysterious” properties of the expanding Universe: An extremely rapid expansion at its beginning (Inflation), an accelerated expansion at later times caused by an unknown energy field (Dark Energy), and the presence of an unknown form of matter (Dark Matter), accounting for 80% of all matter in the Universe. Instead of a simple “Big Bang” Universe, we may even have to consider the possibility that our Universe is just one among many in an infinitely large “Multiverse”. (Available as an in-person lecture).

The Northern Lights: Myths and Science

The Northern Lights – the Aurora Borealis - is an amazing and colorful natural phenomenon. Many myths have been spun about its origin, and only lately have we gained a scientific understanding of its dynamic appearance. This talk will show through photos and videos how our explanations for this “light show” have changed over time. We will explore the connection between the Northern Lights and solar activity, in particular the sunspot cycle, solar flares, and the magnetic fields of the Sun and the Earth. Finally, video clips with accompanying music will be used to illustrate these “dancing curtains of colored lights”. (Available as an in-person lecture).
Exoplanets: Thousands of New Worlds

During the last few decades there has been a veritable explosion in the discovery of extrasolar planets. In particular, the Kepler Mission has led to the conclusion that most stars have planetary systems, including systems with Earth-size planets in the habitable zones around their parent stars. I will discuss the methods that are used to find exoplanets and review the properties of the many diverse and interesting new worlds. (Available as an in-person lecture).

Target Earth: Asteroids, Comets and Near-Earth Objects

On February 15, 2013, a meteor weighing 10,000 metric tons exploded above Chelyabinsk, Russia, releasing more than 30 times the energy of the Hiroshima bomb, and injuring hundreds. There are more than 10,000 asteroids and comets that can pass near Earth. I will describe the various groups of objects that may pose a threat, some of the earlier impacts, and how we might even prevent or mitigate the effects of a disastrous collision in the future. (Available as an in-person lecture).

Black Holes: The Most Mysterious Objects

In this lecture we will explore the properties of the most mysterious object in our Universe: Black Holes, both normal and supermassive ones. They release enormous amounts of energy into the cosmos as they seemingly disappear from the Universe, leaving behind only their strong gravitational effects. In that sense, they are the like the grin of the Cheshire cat in “Alice in Wonderland”. In addition, they warp space and time, and lead to conundrums in our understanding of physical reality. (Available as an in-person lecture).

Solar Superstorms: The Risks of Space Weather

Our society is becoming increasingly vulnerable to the effects of extreme space weather. Solar flares and mass ejections cause
disturbances in the Earth’s atmosphere and magnetosphere that can lead to large-scale collapse of the electrical grid and damage to the GPS and communication satellite systems. Internet and cell-phone communications may be out for weeks or months. I will review our present situation. (Available as an in-person lecture).

The Infrared Universe: From Dark to Bright

Within the electromagnetic spectrum, infrared radiation reveals the cool and “hidden” Universe. Observations of near-Earth asteroids and comets, cool stars and planets, protostars and protoplanets, interstellar dust clouds, star-formation regions, galaxies and protogalaxies give us important information about the history and evolution of the Universe. New telescopes and observatories have shown us a detailed and complimentary view to the visible Universe. (Available as an in-person lecture).

E.T. - Where Art Thou?

The recent discoveries of thousands of planets have put new focus on the age-old question of “Are we alone in the Universe?”. Does extra-terrestrial intelligence exist, and how and where can we find it? I will discuss these questions in the context of our own galaxy of 100 billion stars, emphasizing both our improved knowledge and the many still unknown factors. (Available as an in-person lecture).

Vemork: The Power Plant Behind the Race for the Atomic Bomb

This talk is centered on the question of how this hydroelectric plant, near a tiny town deep in the mountains of Southern Norway, through its production of heavy water, became an object of destruction by the Allies during WWII. What is the background for its place in history, and what was the importance of heavy water for the German atomic
energy project? I will tell the story of the Heavy Water War, including what has been deemed “one of the most daring and successful commando operations during the Second World War.” (Available as an in-person lecture).

Christopher Bayne
Professor Emeritus of Biology
Oregon State University

Communicable diseases have altered the course of history; will this occur again?
The Black Death rampaged throughout Europe in the 14th century. The Spanish flu pandemic of 1918-1919 took down 50,000,000 souls worldwide. Now the COVID-19 pandemic ravages us. These are historic events of which most people are aware. Without doubt, the trajectories of human history were and continue to be knocked off course by such devastating events. Modern science is now more powerful than ever. Basic biomedical research has supplied extensive knowledge of genetics and molecular biology, and this has generated vast data-sets that contain answers to many long unanswered questions, and poses new ones. Methods have been developed to redirect many physiological processes. Do these recent acquisitions enable us to prevent future pandemics of historic scale?
George W.P. Hunt, Arizona’s Crusading Seven-Term Governor

George W. P. Hunt was a highly colorful Arizona politician. In 1911, Arizona voters chose Hunt the state’s first governor. He went on to win election to that office six more times – in 1914, 1916, 1922, 1924, 1926 and 1930. Prior to becoming governor, he served in leadership positions in the territorial legislature and President of the convention that produced the state’s first and only constitution. A progressive force, he was at the center of Arizona Politics from the 1890s down to the early 1930s. The presentation focuses on Hunt’s battles to stem the powers of large corporations, democratize the political system, defend labor rights, reform the prison system, abolish the death penalty, and protect Arizona’s interests in the Colorado River. (Available as an online or in-person lecture).

Dark Money in Arizona: The Right to Know, Free Speech, and Playing Whack-a-Mole

Dark money, this relatively new campaign-finance phenomenon of hidden contributions, is seen by some to reflect a genuine threat to democracy. Its defenders, on the other hand, argue that this approach to funding political campaigns is merely an extension of Americans’ basic right to free speech. This presentation focuses on the development of the dark money issue and its manifestation in Arizona politics, what should or could be done about it, and how it relates to some broader problems regarding campaign finance. (Available as an online or in-person lecture)
Ethics in a New Key: How Beauty and Goodness Can Help Our World

The importance of ethics in today’s world cannot be underemphasized. We live in a time when doing “good” is the most important kind of act we can do. But, how do we know “the good” in order to do good? To answer this I begin with the Greek’s understanding that goodness (ethics) and beauty (aesthetics) are connected. While the Greeks did not develop their insight, contemporary ethicists Mark Johnson and John Paul Lederach have developed a clearer understanding of that relationship. The ideas of these two thinkers are used to explore perhaps the most significant ethics philosopher of the 20th and 21st centuries: Emmanuel Levinas. His work describes the experience of living ethically, rather than telling us how to live ethically. In so doing he provides a way into “doing the good” that transcends culture and politics. (Available as an online or in-person lecture).

Economics and Religion with Examples from the Early Catholic Church

Most religious organizations, especially large and wealthy/powerful ones, use various strategies to increase the allegiance, loyalty, and donations of both time and money from their religious customers. Using economics as the lens to examine the behavior of religious
organizations provides interesting explanations of various strategies. The early Catholic Church provides numerous examples of these strategies. (Available as an in-person lecture.)

The Economics of Almost Everything” (2 or 3 sessions)
Basic economic principles are highly intuitive, and they are illustrated repeatedly by the decisions and actions of individuals, firms, governments, and non-profit organizations. This course explains the basic intuition of the economic motivations and discusses many examples of economics in action in everyday life. Supply and demand are especially important in understanding these issues. (Available as an in-person two or three session course).

The Income-Wealth Gap Between the Rich and the Rest
There always has been a large gap in the income and wealth of the rich and the rest. Of course, some differences in earnings, income, and wealth are necessary for an efficiently operating market economy. But the gaps have grown substantially since the 1970s. Unique data are used to explore the size and implications of this growing gap. Some potential ‘solutions’ to reduce the magnitude of the gap also are explored. (Available as an in-person lecture).

Education, Employment, and Earnings: Past, Present, and Future
Education, employment, and earnings are critically important for individuals, families, and the nation. They directly relate to productivity and the ability of the country to meet its obligations for Social Security and other government (and private) programs. We look at the patterns for these factors for the past, present, and future. (Available as an in-person lecture).
Demise of the Performing Arts

A string quartet required four players hundreds of years ago, and it still requires four players. The basic problem for high-quality performing arts is that technological advances in the ‘productive’ sector of the economy (e.g., auto manufacturing) have limited or even no relevance in increasing ‘productivity’ in the performing arts. Consequently, because the real costs of producing performing arts has increased substantially (as earnings opportunities in the productive sector mean performing artists earn more), high-quality performing arts are difficult to maintain without pricing out most persons or requiring substantial donations or government support. For a few of the highest-quality endeavors, however, technology can help. (Available as an in-person lecture).

Missionaries, Saints, Purgatory, and Death in the Early Church

The Catholic Church rose to fabulous wealth and power from its humble roots in the first century. It did this by creating a long toll road to salvation; missionaries and saints played key roles in the process. Missionaries converted millions to the Catholic faith. Departed saints were treated as ‘living’ persons, and they ‘performed’ many jobs for the church (for which they expected handsome compensation). Purgatory and death were the final stops on the toll road, and they provided huge wealth for the church. (Available as an in-person lecture).

Economics and Religion: Recruiting and Retaining Religious ‘Customers’

Most religious organizations, especially large and wealthy/powerful ones, use various strategies to increase the allegiance, loyalty, and donations of both time and money from their religious customers. Using economics as the lens to examine the behavior of religious
organizations provides interesting explanations of various strategies. The early Catholic Church provides numerous examples of these strategies. (Available as an in-person lecture).

Kathleen Desmond
Professor Emerita of Art History
University of Central Missouri

Where were the women in MY Art History books?
Women Artists and their Art
If you studied art history in or before the 1970s you realized that art by women were minimized or not acknowledged at all. H. W. Janson’s History of Art contained no women artists or artworks made by women. Not one. Even in the 1986 revised edition only 19 illustrations of women’s art (in black and white) appeared along with the 1,060 reproductions of work by men. These exclusions are a catalyst for this engaging and visual (of course!) presentation about the history and ideas of women artists and a discussion about a current approach to art history. (Available as an in-person lecture).

Postmodern Art and Culture
This presentation will engage the audience in the plurality of theories, attitudes, ideas, and experiences (often conflicting) that came about in the mid-twentieth century. Postmodernism literally means after Modernism, but it is also a set of perspectives used in critical theory that refers to a point of departure from Modernism for visual art, design, film, drama, literature, architecture, business, marketing, law, and culture. Postmodernism is also an aesthetic, literary, scientific, political, social and cultural philosophy. It is a new way to understand a new world. Attempting to define it violates a Postmodern premise that no definite terms, boundaries, or absolute truth exists. (Available as an in-person lecture).
Small Wins: Using Incremental Progress to Achieve Larger Goals

We often look to make large advances in life, yet this workshop covers the ways in which “small wins” can lead to great successes over a period of time and why those small wins are successful. (Available as an in-person lecture).

Neurolinguistic Programming

How does our state of mind and body affect our communication and our behavior? Our mind and bodily states show up in our language and non-verbal communication, but we have the power to make changes our mind and bodily states. This presentation covers those changes. (Available as an in-person lecture).

Food, Music, and Memory

At one time or another, most of use have tasted a food item, smelled something cooking/baking, or hear a piece of music that has taken us (mentally) back to a past experience. This discussion addresses how food and music affect our memories. Audience participation is part of this discussion. (Available as an in-person lecture).

What is Home for You?

In the earlier years of our country and the world, most people never strayed more than 25-50 miles from the place where they were born. With the advent of the train, the car, and the airplane, we not only visit places our ancestors never dreamed of visiting, our children and grandchildren go off to college in cities that may be hundreds of
miles from where they were born and many of them work at jobs that have taken them far away from where they grew up. This discussion covers the varied concepts of “home” and what constitutes “home” for many of us. (Available as an in-person lecture).

Self-disclosure, Meeting New People, and Building Relationships

When we first meet a new person, we begin to determine right away whether we think we might want to enter into a relationship (friendship, romantic, and even at interviews for jobs, banking relationships, and others) with that person. But how do we do that? This discussion applies an “onion” metaphor to illustrate “self-disclosure” and how we determine whether to enter into that relationship or to move on without that relationship. (Available as an in-person lecture).

If You Could Live in the Past or Live in the Future

Many of us dream about going back and living in the past, perhaps to remedy a mistake we made or to capture a missed opportunity when we were younger. Others of us imaging living in the future to see how our world evolves (or devolves) and to find out how we or our children or grandchildren or neighbors and friends turned out. This discussion brings together attendee desires and/or perceptions of what things might be like for them if they could return to the past or advance to the future. (Available as an in-person lecture).

The Fun and Importance or Becoming a Chautauquan/Living History Presenter

How can we bring history alive for children and adults alike? Living history presentations bring historical characters alive and can be educational, engaging, and entertaining. For over a decade, Dr. Larry Edmonds has provided Chautauqua presentations of Senator Carl T. Hayden (D-AZ), AZ Governor George W. P. Hunt, and Senator Barry Goldwater. This presentation provides step-by-step insights
into how to create a character portrayal, from scripting a presentation to costuming tips. Many of Edmonds’ presentations were provided by mini-grants through the Arizona Humanities Council. “Marketing” your Chautauqua character is also discussed in the presentation/discussion.

Billie Enz
Professor Emerita of Education, Arizona State University

The Ever-Evolving Brain: Infant, Teen, Adult, Seniors
This engaging session discusses how the brain begins to develop in utero and continues evolve throughout the human lifetime.

- Brain architecture & neurons and neural networks
- Brain development across the life span with a special emphasis on senior skills
- Adverse Childhood Experiences (ACEs) research

(Available as an online or in-person lecture).

How Memory Works? Maintaining Brain/Body Wellness
This session discusses the intertwined memory systems and what research suggests is the best way to maintain memory skills throughout life.

- Sensory memory, working memory and the components of the long-term memory system.
- Memory retrieval and current science reviews of how memories are stored.
• Memory and sleep
• Brain Health, age-related memory loss vs dementia(s)
(Available as an online or in-person lecture).

Language, Memory and Communication
This session reviews the biology of language acquisition and describes how quickly language develops. We also discuss how language establishes the foundation for written language and IQ.
  • Stages of language development
  • Language and Verbal IQ
  • Communicative abilities in other species
(Available as an online or in-person lecture).

Pain & Altered States
This session presents information regarding how ancient and modern humans (and other animals and birds) use organic substances to treat pain and illness.
  • Understanding the pleasure centers in the brain
  • Understanding the biology of addiction and newest treatments
  • Other creatures and altered states
(Available as an online or in-person lecture).

Sensory Perception from a Brain Point of View
This highly interactive session describes where and how the five senses are processed in the brain.
  • Sensory processing
  • Senses and memory
Sensory integration and creating our world view (Available as an online or in-person lecture).

**Gender Differences – Biology and Culture**

This interesting yet very amusing session reviews the biological differences (brain and body) between men and women and how culture has exaggerated these variations over time.

- Differences across time
- Differences across culture
- Differences within gender

(Available as an online or in-person lecture).

**Memory and Cognitive Flexibility: Our Brain’s Executive Functions**

This highly interactive session reviews the components of executive function (EF) including attention span, working memory, planning and mental flexibility, physical inhibition and emotional regulation (self-control). Discussion includes how and when EF skills develop and how to keep these essential brain functions working through our whole life. Tips for maintaining memory and problem solving will be demonstrated. (Available as an online or in-person lecture).

**Social Brain: Empathy via Mirror Neurons – Plus a Pop of Personality**

This session reviews mirror neurons and how it affects our ability to learn, feel empathy and interpret others’ intentions.

- Theory of Mind – understanding others intentions, feelings, and thoughts.
- Theory of Mind in animals
Theories regarding autism
(Available as an online or in-person lecture).

Brain Evolution and Becoming Human
This session considers brain development over two million years of primate evolution and how this big-brain has given humans an interesting set of skills that appears to be unique among animals. This session also reviews the most recent science that examines ancient DNA that offers interesting theories on how we evolved, like new theories in anthology will examine the role of language and tools in brain development.

- Archaic humans and recent cousins
- Hybrids – Lovers or Fighters?
- Homo-Sapiens

(Available as an online or in-person lecture.)

Connecting Learning Theory, Brain Biology and Intelligence
This session examines learning theories through a biological lens. We will discuss intelligences (humans and non-humans) and consider how teaching-instructional approaches improve learning outcomes for children and adults.

- Behaviorism, Cognitivism, Constructivism
- Biological requirements for learning
- Instructional approaches and learning
- Intelligence across the animal kingdom

(Available as an online or in-person lecture.)
Arizona’s Indian Music

With more than 20 different Indigenous cultures living in Arizona there is a vast range of different musical sounds varying from multiple vocal timbres and tensions to instrumental practices all performed within a variety of musical styles from traditional to modern, pop, opera, country, and rap. Examples of each will be heard and discussed within this one-hour lecture. (Available as an online or in-person lecture).

History of Latin Hymnody

The composition of hymns in the Latin language began in the first centuries Anno Domino and continued through the 19th century. In this one and one-half hour lecture major authors of these hymn texts are illustrated via specific hymns from each of three eras: 1) the formative period, 2) the period of florescence, and 3) the period of decline. A handout of authors and titles will be provided. (Available as an online or in-person lecture).

Semana Santa Procesiones en Colombia

A look at Catholic symbolism, anthropology, and allegory in the Holy Week processions of Popayán, Colombia, Including the history of such events in medieval and renaissance Spain. By exploring the use of statues, flowers, colors, and music with their symbolic (and allegoric) meanings, I document a religious expression that dominates within an otherwise Patriarchal and Commercial festival. (Available as an online or in-person lecture).
Los Villancicos de Ibero-Americana: Not just Christmas carols

Villancicos are a genre of music often translated into English as a “carol,” thus implying Christmas music. Indeed the villancico genre is much more than Christmas music. In this lecture we will explore the more than 400 villancicos found in the archive of the Catedral Basilica Metropolitana y Primada (Immaculate Concepción) de Bogotá, Nueva Granada (Colombia) — music, which is very different from that of the villancicos of Mexico, Nueva España. (Available as an online or in-person lecture).

The Bishop’s Banquet: Food in Medieval/Early Renaissance Spain

The Archbishop’s palace in Santiago de Compostela, Spain has a marvelous banquet room with the portals hosting carvings of people and scenes related to “eating.” Together with illustrations from the marvelously illuminated manuscripts of the 13th century Las Cantigas de Santa Maria it is possible to present a conception of late medieval Spanish foods, commercial sharing of food products, music instruments involved with banquets, and, of course, the Bishop and his entourage. (Available as an online or in-person lecture).

A series of four one-hour lectures describing the history of music instruments from traditional and folk cultures to the art cultures of the East, mid-East and Europe. Each lecture is accompanied by photographs and sound bites of a series of instruments.

You may choose one lecture or the series of four lecture below.

- **1001 Arabian Nights or 1001 musical strings**
  10,000 years of string instruments from one string fiddles and African harps to Mesopotamian and oriental lutes to the marvelous violin family.

- **Reeds in the winds**
  Vibrating bamboo attached to instruments of wood, ebony, plastic and even other pieces of bamboo form the family colloquially called “woodwinds.”
• Making music with “raspberries”
  A history of music instruments played by buzzing your lips from conch shells and natural horns to trumpets with valves. The brass family.

• Thumps and bumps in the Night: Scaring spirits away or making music
  Organized sounds: from Charivari to music with rattles and drums from one simple instrument to 100s. A history of percussion instruments.

Norma Hubele
Professor Emerita of Industrial Engineering, Arizona State University

Car Ratings and What They Mean
In the first workshop, we explain why the federal government's “Star Safety Rating” and Insurance Institute’s “Top Safety Picks” systems were originally developed. With this understanding, you will be better prepared to interpret these ratings in your car-buying decisions. (Available as an online or in-person workshop).

Driver Assist Technologies
In the second workshop, we describe the capability of the current driver-assist technologies, the nomenclature and their estimated value in the car-buying decision. The regulation and limitation of these systems will give you insights. The workshop will end with a view of the future of cars and ownership. (Available as an online or in-person workshop).
Special Relativity: Case Closed
The weird, non-intuitive phenomena of Special Relativity easily invite skepticism from those who do not understand it. As a scientific discipline, Special Relativity is held to the same criteria of observable substantiation as all of science. In this course, it will be demonstrated how Special Relativity has fulfilled this requirement to a higher degree than any other scientific law or theory. In the process of doing this, it will display and discuss all those fun unimaginable characteristics of Special Relativity that attract curious attention to it. (Available as an in-person lecture or 4 lecture mini-course).

Einstein’s Legacy
The life and work of Albert Einstein, including the social impact of his discoveries and commentary. It is taught at the university general studies level and has no mathematics or physics prerequisites beyond that ordinarily required for high school graduation. New concepts will be carefully introduced. (Available as an in-person lecture or 4 lecture mini-course).

A Practical Introduction to General Relativity
This course is designed for adults who, while not necessarily trained in the sciences, have sincere curiosity about Einstein’s famous theory of gravity and about the universe in which we live and how, according to current scientific understanding, it came to be. It is taught at the university general studies level and has no mathematics or physics prerequisites beyond that ordinarily required for high school graduation. New concepts will be carefully introduced. This is not a course in “practical” applications of General Relativity, although there are some, such as GPS systems, that will be discussed, but rather
an approach that is practical in the sense of not requiring advanced mathematics or physics. (Available as an in-person 4 lecture mini-course).

**The People and Physics Behind the Atomic Bomb**

This course will address the basic nuclear physics and bomb physics needed to understand the events leading to the Trinity test on July 16, 1945 and subsequent events. It will also visit the 24 primary actors in the process as well as many in the supporting cast. The course is designed for intelligent adults without formal science background. There will be very little math and no need to follow mathematical deductions. (Available as an in-person 4 lecture course).

**The Big Bang and All that: The Birth of a Universe**

This course is designed for adults who, while not necessarily trained in the sciences, have sincere curiosity about the origin of the universe in which we live and how, according to current scientific understanding, it happened. The current well-established standard model of the birth of the universe, referred to popularly as the Big Bang, will be discussed with particular emphasis placed on the evidence sustaining it. The course is taught at the university general studies level and has no mathematics or physics prerequisites beyond that ordinarily required for high school graduation. New concepts will be carefully introduced. (Available as an in-person lecture or four lecture mini-course).

**Spooky Physics: Quantum Entanglement, Quantum Teleportation, and Quantum Computing**

This course will introduce and survey contemporary research on some of the most confounding of these, which Albert Einstein derisively called “spooky.” The course will be taught at the level of a college general studies course for intellectually well-prepared lay persons. No mathematical developments will be presented in class, although students should be comfortable with simple logic,
formulas and graphs. The historical development of Quantum Theory and its standard applications through Quantum Mechanics will not be covered (cf. the instructor’s course, The First Hundred Years of Quantum Physics), but attention will be focused on the basic principles of Quantum Theory that lead to current research in quantum entanglement, quantum teleportation and quantum computing. (Available as an in-person 4 lecture mini-course).

Symmetries in Modern Physics

From crystals to elementary particle families to space and time transformations, the symmetries of modern physics provide both aesthetic delights and scientific wonder. This course is taught at the university general studies level and has no mathematics or physics prerequisites beyond that ordinarily required for high school graduation. New concepts will be carefully introduced. (Available as an in-person 4 lecture mini-course.)

The LHC: Particle Physics at the Higgs Frontier

It has been eight years since the first observation of the Higgs Boson at the Large Hadron Collider (LHC) in Geneva, Switzerland. This event placed the capstone on the development of the so-called Standard Model of matter, which unifies the Electromagnetic force with the Weak Nuclear force. Further unification of these with the Strong Nuclear (or Strong Quark) and Gravitational forces is the continuing central mission of the LHC. This course will review the physics leading up to the Higgs observation and, in the final lecture, will survey the physics done at the LHC since then and the LHC’s current status as still the world’s greatest elementary particle physics laboratory. Important research at the Higgs Frontier at other facilities will also be presented. The class is presented at the college 101 General Studies level and requires no science and math beyond high school graduation. (Available as an in-person lecture or 4 lecture mini-course).
100 years of Quantum Physics (8 sessions)
This course is designed for adults who, while not necessarily trained in the sciences, have sincere curiosity about the universe in which we live and the physical laws which govern it. It is taught at the university general studies level and has no mathematics or physics prerequisites beyond that ordinarily required for high school graduation. New concepts will be carefully introduced. (Available as an in-person course).

The Nitty and the Gritty: Physics of Elementary Particles (8 sessions)
This historically based course in elementary particles is designed for adults who, while not necessarily trained in the sciences, have sincere curiosity about the fundamental nature of matter in our universe and the means by which it has been uncovered. It covers the field from the discovery of the electron to current quark and Higgs physics. It is taught at the university general studies level and has no mathematics or physics prerequisites beyond that ordinarily required for high school graduation. New concepts will be carefully introduced. (Available as an in-person 8 lecture course).

The Song of the Universe: Gravity Waves
This lecture covers the prediction of gravity waves and their recent observation in highly sensitive laboratories around the world. (Available as an in-person lecture).

Neutrinos: Nature’s Wraiths
The prediction and subsequent discovery of the neutrino, a particle of no electrical charge and very little mass, but which exists around us in inconceivable numbers, is one of the greatest triumphs of modern theoretical and experimental physics. Today, neutrinos demonstrate their worth as probes of a wide range of phenomena, from the
subatomic to the cosmic. The history and concepts of neutrino physics are explained in language accessible to any high school graduate who has fulfilled general college admission prerequisites. (Available as an in-person lecture or 4 lecture mini-course).

**An Intimate Evening at Stonehenge**

An introduction is given of the setting and origins of Stonehenge, including up-to-date archaeological knowledge of its role in Neolithic society. Up close photos taken by the lecturer of the stones forming Stonehenge are also shown along with a description of their nature and origins. (Available as an online or in-person lecture).

**Particle Cosmology: Quarks, the Higgs and the Big Bang”**

This course is designed for adults who, while not necessarily trained in the sciences, have sincere curiosity about the origin of the universe in which we live and how, according to current scientific understanding, it happened. The current well established standard model of the universe, including its birth, referred to popularly as the Big Bang, and the basic constituents of its contents, will be discussed with particular emphasis placed on the evidence sustaining it. The course is taught at the university general studies level and has no mathematics or physics prerequisites beyond that ordinarily required for high school graduation. New concepts will be carefully introduced. (Available as an in-person 4 lecture mini-course).
First Things First – Time Management for Seniors for Fun and Effectiveness in Retirement

In this highly interactive 2-hour workshop, you will learn how to best set priorities to achieve the important things you want to achieve in retirement. This is not a one-size-fits-all time management program, but rather an individualized and interactive approach to help you have the fun and effective retirement lifestyle you desire. (Available as an online or in-person workshop).

The National Debt: Facts and Opinions

In this highly interactive 2-hour workshop, in the first part you will learn about the facts of our National Debt. What is it? What is its history? Who is it owed to? What is the difference between the deficit and the debt? Is it too large? What are options for reducing it? In the second part of the workshop, we will work together to develop our opinions about what, if anything, we should do about the National Debt. Everyone in the workshop will have the opportunity to share their opinions. Workshop participants should come to the workshop with both an open mind and their own opinions. Participants should be prepared to share their views with others and to listen well to others who may have somewhat different views. (Available as an online or in-person workshop).

Our Trip to Tuscany and Umbria 2015

We spent the month of September of 2015 visiting the Tuscany and Umbrian areas of Italy on a food-oriented tour of the region. This travelogue will be a discussion with pictures of this trip. This trip off the beaten path gave us a good understanding of what it might
Cuba Revealed: Our Trip to Cuba in 2016
In March of 2016 we spent nearly two weeks touring Cuba. This travelogue will be a discussion with pictures of this trip. Never have we been to a place so close yet so foreign. Cuba is a step back in time while simultaneously wanting to move forward. Questions from participants are welcomed and encouraged. (Available as an online or in-person lecture).

Exploring Patagonia (Argentina and Chile) in 2018
In March of 2018 we spent nearly three weeks touring Argentina and Chile. This travelogue will be a discussion with pictures of this trip. What we discovered was much different than we expected. The scenery was spectacular. Questions from participants are welcomed and encouraged. (Available as an online or in-person lecture).

Backroads of Iberia: Portugal and Spain 2019
In May of 2019 we spent nearly three weeks touring the back Roads of Portugal and Spain. We stayed in Portuguese Pousadas and Spanish Paradores. This travelogue will be a discussion with pictures of this trip. Questions from participants are welcomed and encouraged. (Available as an online or in-person lecture).
Aristotle, Cicero and Adam Smith

The legacy of Greco-Roman Humanism flowed from 4th Century B.C. Athens into the 18th Century A.D. Political Economy of Adam Smith. Cicero lived in the Roman Republic, an agrarian economy, and continued the ethical doctrines of the Athenian polis. Like Aristotle, Cicero fused ethical philosophy with political economy. Careful reading of THE WEALTH OF NATIONS reveals that Smith was aware of the deprivations of poverty and he advocated free education for the poor so they could advance up the social ladder, for higher taxes on the rich and the absence of taxes on the poor in order to lower the prices of necessities, for social welfare for the poor and he was an ardent opponent to monopolies. (Available as an online or in-person lecture).

The 18th Century Enlightenment: An Introduction to Modernity

The 18th Century. Enlightenment was an introduction to the culture of the 19th and 20th Centuries. However, the Enlightenment was not monolithic, but rather composed for four distinct schools of thought. Although the Enlightenment Left was the birthplace of 18th Century Communism significant differences separated the Enlightenment Left from 19th and 20th Century Socialism and Communism. (Available as an online or in-person lecture).
Lost Worlds of 1863: Relocation and Removal of American Indians in the Central Rockies and the Greater Southwest

This is a PowerPoint presentation on the forced removal of Native Americans in the Greater Southwest, an area that includes all the lands between the northern boundaries of California, Nevada and Utah southward to the Tropic of Cancer in the Mexican North, and from the Pacific coast in the West to the mid-Kansas area in the East. The narrative centers around the year 1863, which is simply a hook around which to hang various case studies. “1863” is not a precursor for all that follows, or a necessary consequence of what went before. The year “1863” allows the reader to compare the various experiences of several tribal groups—Paiute, Ute, Navajo, Shoshone, Yavapai, Apache, Yaqui, and O’odham (Pima and Papago). Navajo and Yaqui images from a mural Navajo artist Steven Yazzie produced for the Heard Museum in Phoenix, Arizona in the year 2000 are some of the illustrations that are used in the presentation. It is worth noting that more Indian lives were lost and more land removed from indigenous peoples during the Civil War years than at any other time in American history. (Available as an in-person lecture).
Exploring the Cosmos – we know so much yet so little

We have learned an amazing amount about the Universe we live in. We know how old it is and can trace its history from the present day until a time a minute fraction of a second after its creation. What happened before that, we do not know but we can certainly speculate. We know that the earth, other planets and all stars are made of normal matter in the form of atoms which comprises only 5% of the mass of the universe. The nature of the other 95% is unknown to us even though we have names for it such as Dark Matter and Dark Energy. Interestingly, in order to be able to understand our vast Cosmos and its evolution, we must understand the micro world of elementary particles and the quantum. (Available as an in-person or online two lecture mini-course).

From Quarks to Cosmos

We will begin with a brief discussion of the methodology of science using as an example our picture of the atom from the Greeks to the present day. We will then go down in scale to the fundamental building blocks of matter, the quarks. As part of this, we will delve into the mysterious Higgs Boson. We will end by discussing the largest structure we know of, the universe, including the existence of Dark Matter and Dark Energy. Interestingly, we now know that in order to understand the universe and its evolution, we must first understand the micro world of quarks and the quantum. (Available as an in-person or online four lecture mini-course).

Einstein and You

Believe it or not, there are about a half dozen of Einstein’s ideas that do, or could, affect your everyday life. Do you have a camera with a
light meter or use GPS navigation in your car? Could one aspect of Relativity theory possibly affect our evolutionary rate? These and other effects will be discussed in this wide-ranging talk. (Available as an in-person or online lecture).

**The Controversy about the Teaching of Intelligent Design/Creationism in the Science Classroom**

The question as to whether Intelligent Design and/or Creationism should be taught along with Evolution in the Biology classroom has been and remains quite controversial. In order to appreciate the issues involved, I will discuss both the legal and scientific aspects of the controversy. In particular, there have been two court decisions relevant to the issue. One of these was decided by the Supreme Court in 1987, the other was decided in 2005 in Dover, Pa. I will discuss both of these in some detail. In addition, I will discuss some of the science issues involved and where the controversy stands today. (Available as an in-person or online lecture).

**Understanding Relativity – Einstein’s Theories made Relatively Simple**

Einstein’s theories of Special and General Relativity are considered two of the greatest achievements of the human mind. They are both based on simple principles that lead logically to amazing predictions that have been verified including, most recently, Gravitational Waves, predicted in 1916, and now observed in 2016. In these lectures, we will introduce these principles and see how they lead to such phenomena as the relativity of length (length contraction) and time (time dilation) in Special Relativity and Black Holes in General Relativity. (Available as an in-person or online as a three or four lecture mini-course).
The 1893 Chicago World’s Fair and the Birth of Modern American Culture

Some 27 million visitors prepared for the twentieth century by visiting the World’s Columbian Exposition, which once occupied nearly 700 acres on Chicago’s south side. Most had never even seen a light bulb, but they were suddenly greeted with more electric lights than were then in use in the entire city of Chicago. The Fair was a mixture of the palatial Renaissance and the ultra-modern, for its Greco-Roman palaces were offset by the Art Deco of Louis Sullivan, and its elegant concert halls—where thousands heard Handel’s Messiah—were augmented by the talents of John Philip Sousa and Scott Joplin.

This course will revisit the architecture, the art, and the music of the 1893 Chicago World’s Fair. (Available as an online or in-person lecture or 2 session mini-course).

Music of the Founding Fathers: Washington, Jefferson, and Franklin

In addition to the lightning rod, bifocals, and a highly efficient stove, Benjamin Franklin also invented the alluring glass harmonica—a musical instrument of such seductive beauty that it once charmed even Mozart and Beethoven—and he also composed a lengthy string quartet. Washington’s granddaughter studied seriously for several years with Alexander Reinagle, the most accomplished keyboardist in early America, and she became immensely proficient on the harpsichord. Francis Hopkinson, a signer of the Declaration of Independence, is also credited with composing the first song written on American soil. Using recordings and live demonstrations at the piano, this course will recreate some of the important cultural
backstory that is often omitted from standard history classes. (Available as an online or in-person three session mini-course).

The Great Pianists

From the time of Mozart, the piano has reigned as the most popular of musical instruments, for it enables accomplished performers to move their audiences to tears, as well as to stir them into unrestrained excitement. This course examines some of the greatest pianists of the past 200 years, including Chopin, Liszt, and Clara Schumann, while focusing on great artists who lived after the invention of recorded sound, such as Paderewski, Rachmaninoff, and Artur Schnabel. Pianists active today, such as Garrick Ohlsson, Angela Hewitt, and Sir Andras Schiff will also be discussed, as well as a few selected jazz artists. The course includes live performances at the piano, and audio/video examples. (Available as an online or in-person lecture or 3 session mini-course).

Frank Lloyd Wright: The Chicago Years

In 1887, a 20-year-old Frank Lloyd Wright arrived in Chicago from his native Wisconsin to pursue his dream of architecture, and within three years he had become Louis Sullivan’s head draftsman. By the time Wright established his own firm, he was specializing in domestic architecture, an area often neglected by the leading architects of the day, and he was now determined to bring a new architecture to the American prairie—an architecture rooted in his philosophic beliefs concerning human nature. His first masterpiece, the Winslow House in River Forest, appeared in 1893, and scholar Grant Carpenter Manson once described it as an “amazing leap into the future.” This course—which presumes no prior knowledge—surveys Wright’s Chicago-area homes before 1910 (many of which have been beautifully restored), and examines some of the underlying philosophic premises that guided his architectural choices. (Available as an online or in-person lecture or 3 session mini-course).
The Great Jazz Pianists
While iconic masters such as Louis Armstrong and Charlie Parker heralded the advancement of jazz through their bold mastery of wind instruments, the softer-spoken piano was even more central to its development. The wizardry of “Jelly Roll” Morton surfaced before World War I, and by the 1920s, artists like Duke Ellington and Count Basie were using the piano to define their art’s most sophisticated harmonic and rhythmic innovations. This course tells the story of jazz though the lens of its greatest piano virtuosos, including Art Tatum (sometimes termed the “invisible man of jazz”), Earl Hines, Fats Waller, Nat Cole, Teddy Wilson, Bud Powell, Bill Evans, Oscar Peterson, and many others. Live demonstrations at the piano are augmented by audio and video recordings.(Available as an online or in-person lecture or 4 session mini-course).

The Great Women Pianists, from Maria Anna Mozart to the Present
Some of the greatest pianists in history have been women, though often their fame has been eclipsed by iconic innovators like Chopin and Liszt. This course will focus on the contributions of some of the most accomplished, including those who lived before the age of recorded sound, such as Mozart’s older sister Maria Anna, Mendelssohn’s sister Fanny, Clara Schumann, Amy Fay, and Teresa Carreño. We will also listen to earlier twentieth-century masters like Dame Myra Hess, Dame Moura Lympany, Harriet Cohen, Guiomar Novaes, and Clara Haskil, as well as living virtuosos like Ann Schein, Angela Hewitt, Valerie Tryon, and Ruth Slenczynska. (Available as an online or in-person lecture or 3 session mini-course).

The Golden Age of Film Music
Even decades before movies learned to talk, music was considered essential to their enjoyment, and by the 1920s, elegant cinema palaces with massive theater organs were found throughout America. When sound arrived, the Depression led even greater numbers
to seek escape through musicals, dramas, and action-adventure extravaganzas underscored by classically trained Europeans such as Max Steiner, Erich Korngold, and Miklós Rózsa. This course will examine the contributions of these men and their “descendants,” such as Bernard Herrmann, Alex North, Dimitri Tiomkin, and John Williams. (Participants will be given an opportunity to view 4 films in their entirety which will be discussed extensively in class.) (Available as an online or in-person lecture or 4 session mini-course).

**Toiling under Tyranny: Musicians under Nazism and Communism**

In recent years, increasing attention has been paid to writers and artists who were forced to flee Hitler’s Germany, but a great deal of information has also surfaced about the brutalities Stalin inflicted on famous composers in the 1930s such as Dmitri Shostakovich. Totalitarian governments have always restricted the freedom of artists, and this course examines the impact of modern dictatorships on World War II-era musicians such as Paul Hindemith, Kirsten Flagstad, and Wilhelm Furtwängler, as well as on Soviet Post-War performers such as David Oistrakh and Sviatoslav Richter. The careers of Soviet defectors such as Rudolf Nureyev and Mikhail Baryshnikov will also be examined. (Available as an online or in-person lecture or 4 session mini-course).

**The World of Tomorrow: A Visit to the 1939 New York World’s Fair**

Nearly half a century after the 1893 World’s Columbian Exposition – America’s greatest world’s fair – had thrilled millions of visitors, officials from the Roosevelt Administration and private industry joined forces to create what they hoped would provide a similar beacon of hope to Americans whose dreams had been crushed by an ominous Depression. While Chicago’s Fair of 1893 had been a curious mixture of palatial Renaissance architecture housing exhibits devoted to electricity, searchlights, and other high-tech marvels, the New York Fair paid little, if any, homage to the past. By contrast, it was future-oriented in every respect, symbolized by RCA’s pavilion built in the
shape of a radio tube, and perhaps most emphatically by Norman Bel Geddes’s “Futurama” housed in the General Motors pavilion—a land of Oz where radio-controlled cars traveled at breakneck speeds through cities which soared to the sky. This course will journey back to a billion-dollar exposition that once promoted science-fiction miracles as just around the corner—but fell far short of bringing about its promised Utopia. (Available as an online or in-person two session mini-course).

What is Mathematics About?

Most people think they know. My dentist once asked, “How can you do research in mathematics? Isn’t it all known?” We start with a short poem. Written by a prominent mathematician, it says precisely what math is about. Asked to interpret that poem, most senior math majors had no clue! We will discuss modern developments of the 19th and 20th centuries, rather than the ancient Greeks and Babylonians. Offered as either a single lecture or as a short course with an extended treatment of developments from the 17th century to the present. (Available as an online or in-person lecture or short course).
What Are Virtual Worlds and Why Should I Care?

Virtual worlds are popular digital multi-user environments where everything is built by avatar-residents except for the land. For over 20 years, Second Life is the most popular virtual environment to offer artistic, medical, ethical and educational Implications. Explore Diverse Mental Health Artists, Virtual Ability Island, with lots of mentoring, meet its host and different ability participants, discover diverse resources [Prosthetic Museum], artists and their exhibitions [one artist is totally disabled], explore building resources on Cape Serenity, tour inside Brodman’s Brain on Inspiration Island and participate in a musical communal event for enlightenment. Light/Draw a Candle and Help Create Future Memorials, Educational Sites, and Medical Wonders. (Available as an online lecture).

Exploring Virtual World Treasures

Systematic study of 3-D immersive environments and societies embedded in virtual worlds mainly on Second Life, that enable participants to simulate life practices, including such proficiencies as navigating [walk, fly], using different camera controls/views/landmark, experiencing multi literacies [chat, speak, gesture], finding destinations/mapping, storing/retrieving content/landmark links in one’s inventory, fashioning identity [change avatar appearance and dress], searching art installation sites, building sculptures, collaborating, interviewing avatars, and researching cultural differences, and medical implications. Education now includes education from “womb to tomb,” and involves transdisciplinary education and multi-literacies or new ways of communicating. We are Transformers of Interdisciplinary Technologies, Integrative Problem-solving, Inclusive and Intergenerational Learning, and Multicultural Futures. Design/Light a Candle and Help Create Future Memorials, Educational Sites, and Medical Wonders. Available as an online
participatory workshop and participants must have an updated computer that can download Second Life (software).

Exploring Virtual Worlds
Searching for hidden treasures embedded mainly on Second Life, that enable participants to visit museums, in different countries, join groups, build sculptures, interview avatars, attend dance/music performances, and share results. Virtual worlds are online 3-D multi-user environments that are computer simulations, where users create their own avatars, participate in various activities, explore different lands, and communicate with others. Course topics include: Searching for hidden treasures in a Turkish carpet; visiting an art gallery where your avatar is projected into the artwork; attending a nonprofit group event that empowers disenfranchised people; exploring international settings; and participating in a dance/music performance site and its multi literacy ways of communication and sharing screenshots on Facebook. Available as an online participatory workshop and participants must have an updated computer that can download Second Life (software).

Charles Tichy
Professor Emeritus of Modern Languages, Arizona State University

Crimea: Its Contentious Reality and Identity
Course discusses the characteristics of the multiple international influences and conflicts that have contributed to Crimean identity. This course begins with discussions of the cultures influencing Crimea up to Catherine II’s annexation in 1783 with emphasis on the eras of Roman and Greek dominations and on the development of Crimean Tatars. The course then outlines the events leading up to the development of modern Crimea including the events of the
Crimean War (1853-1856) and the Soviet period (1921-1991). The course concludes with a discussion of the political decisions, conflicts and intrigues that brought the annexation of Crimea into the Russian Republic removing it from Ukraine on March 18, 2014. (Available as an online or in-person 3-hour lecture or four two-hour lectures as a mini-course)

**Anniversary Appraisal of the Crimean Annexation**

Course views the social, economic and government projects occurring in Crimea since the Russian annexation in 2014 with emphasis on the activities simultaneously taking place during the course. The program compares current daily life of the Crimean people with the realities of daily Crimean life before 2014. Course offers the details of Russian subsidizations and projects including transportation, education, and the development and goals of its Black Sea Fleet. Course is best offered during the week of March 11-18 in order to match the official annexation date of March 18 as close as possible. (Available as an online or in-person course of two lectures of two hours each or it can be adjusted for one session of two hours).

**The Aesthetics of Russian Nobel Prize Winners of Literature**

Have you ever wondered why six authors writing in Russian have earned the Nobel Prize in Literature? This program offers several answers while discussing the narrative style, language usage and ideas of works written by these authors. Works discussed are Mikhail’s Sholokhov’s Quiet Don, Boris Pasternak’s Doctor Zhivago, and Alexsandr Solzhenitsyn’s First Circle and Cancer Ward. The course also looks at the stories of Ivan Bunin and the poetry of Joseph Brodsky. Svetlana Alexievich’s, the Belarus author, who earned the Nobel Prize in 2015, wrote in Russian. The course also considers her works including The Unwomanly Face of War. (Available as an online or in-person course of four session of two hours each. Adjustments for shorter times can be arranged on request).
Russian Culture in Putin’s World

Course presents the status of Russian culture during the presidency of Vladimir Putin. Discussions relate the reactions of Russian society and Russian media to Putin’s “modernization” programs. The course outlines the effects of the pandemic on Russian life at home, at the dacha, at the ballet and theatre performances and at traditional shopping locations and centers. The course also elaborates the interests of main-stream Russians in politics, demonstrations, cyber-technology and national literature. (Available as an online or in-person course of two sessions of two hours each. Course can be adjusted for one session of two hours on request).

JoAnn Yeoman Tongret
Professor Emerita of Performing Arts, Arizona State University
Note: Professor Tongret is only available in the Tucson area.

Musical Theatre: Mirror and Mythology

A history of the American Musical Theatre in the context of our nation’s developing identity and as the reflection of a changing audience. This is a lecture with media and requires a DVD player, large screen, and access to YouTube. Audience can be of any number given the viewing potential of the space. There is time for a short Q & A after the lecture. The musicals, creative teams, and performers that are discussed as well as the short clips viewed during this 90-minute presentation include: vaudeville, Gilbert & Sullivan, George M. Cohan, Irving Berlin, the Gershwins, Rodgers and Hart, Cole Porter, Rodgers and Hammerstein, Sondheim, Bernstein, Adler & Ross, Steven Schwartz, Andrew Lloyd Webber, Cameron Macintosh, Hal Prince among others. No pre-requisites. (Available as an in-person presentation in the Tucson area).

Embodying Sensation

This is an interactive lecture/demonstration which invites the audience to participate in experiencing how outward attire,
accessories, and social expectations inform historians, actors, researchers, sociologists, and all curious human beings about the past and how it still affects us. Audience members can participate or not as they wish. There are no pre-requisites — only the willingness to get up and examine or try out various costume pieces and “props” which played a major role in the deportment and attitude of our ancestors. The class also takes a look at our own current “clues” that might interest those in the future. Costume pieces and props that might be incorporated as a part of the demonstration include hoop skirts, gentlemen’s canes, hats, use of hankies and fans language, the snuff box, ballroom etiquette, greetings, deference to superior classes, etc. (Available as an in-person presentation in the Tucson area).

**Special Coaching**

If any individual students or actors are interested in coming to Tucson, I am happy to coach audition monologues or songs. In these cases, the individuals should contact me through the Academy by giving the Emeritus College their e-mail address and then I will connect with them to see if I can really be of use to their specific needs. Singers especially profit from looking more carefully at ways to approach lyrics. I often coached performers who were going for call-back auditions to Broadway shows and enjoyed it greatly. (Available in-person in the Tucson area).

**Eric vanSonnenberg**
Professor Emeritus of Medicine and Surgery and Radiology, Harvard University, University of Texas and University of California, San Diego

**What Do Diseases Look Like Seen Through the Fascinating World of Radiology?**

In this talk we will take a fantastic journey through the spectrum of radiologic imaging to familiarize you with well-known diseases
themselves and their appearances. Many diseases that you’ve heard about will be highlighted including Covid pneumonia, pulmonary embolism, aneurysms, tumors, stroke, heart attack, and inflammatory conditions such as diverticulitis, appendicitis, and pancreatitis. (Available as an in-person or online lecture).

How to Synchronize, Harmonize, and Optimize Your Relationship with Your Doctor

In this talk we will help you communicate with your doctor, by going inside his or her mind and training, so you will better understand what you are going to be asked. We will describe relevant pertinent information that you can volunteer to further aid the interaction with your doctor. We will look at some of the tests that your doctor may recommend (CT, ultrasound, MRI, PET, x-rays), so you will be better informed and able to ask important questions. (Available as an in-person or online lecture).

Artificial Intelligence (AI) in Medical Education Today – Pros and Cons

Undoubtedly AI will more and more become integrated into medical education and clinical and research medicine. However, there are many pros and cons, as well as details to be refined. In this talk we will highlight the many controversies around AI, including educational, ethical, and legal issues. (Available as an in-person or online lecture).

Medical Student Research – a Relatively New, but Essential, Phenomenon

If your doctor is more than 40 to 45 years old, good chance that he or she never did any, or much, research while in medical school, unless he or she was also a PhD. Today, research in medical school is essential for virtually all specialties, and some, as many as over 20 research entities. The reasoning, the types of projects, and the stresses on current medical students are interesting and will be discussed. (Available as an in-person or online lecture).
Medical School Education Today – So Different from When Your Doctor Went to Medical School if More Than 15 Years Ago!

American medical schools have undergone an amazing transformation from what had been stable learning formats for well over 70 years. We will highlight the interesting, nascent formation of medical schools in the United States, and the evolving transformation that has markedly changed medical education today. (Available as an in-person or online lecture).
Emeritus College lectures, workshops and short courses are coordinated through the Emeritus College Academy for Continued Learning, Gary L. Kleemann, Director.

**Cover Art**
Power Lines (Ken McDonald Bridge), watercolor

**Paul E. Jackson**, Professor Emeritus of English, Arizona State University

Paul E. Jackson is an Associate Member of the Emeritus College. He grew up in Phoenix when his family moved there after World War II. He graduated from ASU in 1959 with a degree in journalism. After five years of working in that field, he returned to ASU to earn a PhD in English. He taught in South Dakota before returning to Arizona, where he enjoys landscape painting, especially in the desert. Paul is married to ASU Physics PhD alumna, Jane Chapman Jackson.

The painting is done in egg tempera which is a medium that preceded the use of oils and revived in modern times by Peter Hurd and Andrew Wyeth. It has its own qualities of color and texture and once dry is very permanent.