WHAT ARE BYRNE SEMINARS?
Byrne Seminars are small, one-credit courses, limited to 20 students. Offered through the Office of Undergraduate Academic Affairs, these classes are taught by our world-renowned faculty who come from departments and professional schools across the university. Each unique seminar offers students the chance to experience the excitement of original research, as faculty members share their curiosity, their intellectual passion, and their new ideas and fields of knowledge. Some seminars take field trips, do hands-on research, or share a meal at the Rutgers Club. Seminars typically meet for 10 weeks, starting in the first week of each semester. You may take up to two Byrne courses in your first year, in consecutive semesters. The seminars are graded Pass/No Credit, and have no formal exams. Students may register for a one-credit seminar in addition to the 12-15 credit standard course-load. The seminars are not meant to compete with other courses.

HOW DO I SIGN UP?
You can register for a Byrne Seminar when you select your other courses this summer or you can add a Byrne to your schedule online through WebReg during the first week of classes. This catalog includes section numbers for each fall seminar below the course description. You will find the Online Schedule of Classes useful in determining which courses are open and will fit best into your schedule. Enter subject code “090” and course number “101” to get a list of Byrne Seminars for the semester, including up-to-date information about time and location.

HAVE QUESTIONS?
Email: byrneseminars@rutgers.edu / Call 848.932.6971
Or visit our website: WWW.BYRNE.RUTGERS.EDU

FALL 2020
First-Year: Humanities.................................................................4
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Welcome to Rutgers! I am very glad you are here. As you start your first year here at Rutgers, I am about to start my forty-seventh year here. I often wish that there were Byrne Seminars back when I was a freshman in 1973, it is such a good experience. The faculty who teach in this great program enjoy their interactions with our first-year students and the relationships that form. In many cases these relationships continue for the next four years and beyond.

I have been teaching in the Byrne Seminar Program since the program started and I am honored to be the Faculty Director for the Byrne program. I feel fortunate to have this responsibility, and I welcome and encourage you to take advantage of this amazing opportunity.

The Byrne Seminars offers a wide array of titles and subjects, the classes give you a chance to discover new things and have fun. I urge you to consider taking one of these courses. Push your boundaries a little and take a class that is outside of your intended major or current interests. You may be surprised, this topic may become a new area of interest to you. With over one hundred seminars, there are plenty of choices. The faculty who teach in the Byrne Program are some of the top professors at Rutgers, individuals who are recognized in their discipline for their innovation, leadership, and scholarship.

If you are on the fence about taking a Byrne Seminar, my advice is “jump off the fence” find one you like and join the thousands of students who have participated and benefited from this fantastic first-year experience at Rutgers.

I wish you all good things for your first year at Rutgers.

Be safe, stay healthy and have fun,

Mark Gregory Robson, PhD MPH DrPH
Rutgers Board of Governors Distinguished Service Professor
Professor of Plant Biology
Faculty Director of the Byrne Seminar Program
The Music of Language: An Introduction to Prosody and Intonation

Mariapaola D’Imperio (Linguistics and Cognitive Science Center)

When you learn to speak another language, the problem is sometimes not simply about knowing individual sounds, words, and grammar, but how to use the specific intonation, stress patterns and the rhythm of that language in order to sound like a native and be understood. For instance: now come that when you ask a question in Italian or another foreign language that might sound awkward to natives’ ears: How come that French speakers have a hard time placing the accent on the right syllable when speaking English? Also, how come that babies, who have not yet mastered language, can ask questions and communicate their intentions through their tone of voice and gestures? Also, have you ever thought about what makes a speaker charismatic? And what about detecting deception, irony and politeness in a speaker’s voice? This class will hence introduce you to the study of prosody and the “music of speech” (intonation), with examples drawn from different languages. The aim is to provide an awareness of these aspects which are relevant to future foreign language teachers, linguists, speech pathologists and computer science students interested in speech technology. We will also introduce you to the relationship between musical and other cognitive skills and prosodic skills, the importance of prosody for speech technology (social robotics, speech synthesis, speech and language recognition), and applications for atypical populations (autism, developmental dyslexia, cochlear implanted children, etc.). Successful completion of the course requires regular attendance and participation, as well writing a short paper at the end of the course about a specific topic. There is no previous requirement for this class.

01:090:101 section 13

The Same Old Song: Influence and Allusion in Popular Music

Christopher Doll (Music)

Is all pop music really the same? Are rock musicians more original than their pop counterparts? And what about hip hop—is sampling theft, or does it have artistic merit? These and other questions will guide us as we focus our attention on musical and lyrical details that raise issues of influence and allusion between songs from all over the popular-music repertory. We will listen to artists such as Ray Charles, Elvis, The Beatles, Aretha Franklin, Jay-Z, Hendrix, Carole King, Led Zeppelin, X, Madonna, Metallica, Beastie Boys, Jay-Z, and Daft Punk. We will also watch musically intertextual films such as “The Rocky Horror Picture Show” and “Ray.”

01:090:101 section 45

Yoga: Finding Calm in Chaos

John Evans (Dance)

This seminar will help you focus on finding calm in your life while joining the ranks of busy college students. Through the study and practice of yoga, we will explore how to build a stronger mind-body connection. This course will assist you in learning how the practice of yoga can support a happy and healthy life. Through centering and breathing techniques, strengthening and stretching yoga postures, and simple meditations, students will begin to gain a better sense of well-being. We will investigate mindfulness trainings and yoga sequences throughout the ten-week seminar.

01:090:101 section 41

American Roots Music

Angus Gillespie (American Studies)

American roots music encompasses blues, country and western, gospel, Cajun, and Tejano genres. This kind of music originated in and was nurtured by small communities and spread across the nation. Eventually, in a new era of radio and recordings, these home-grown music traditions contributed to an explosion of American popular music. In this seminar, student participants will follow the remarkable story of this creative outpouring. Readings and discussions will focus on the pioneering geniuses who wrote the music and sang the songs.

01:090:101 section 28

Somatic Studies: Practicing Mindfulness in Our Daily and Creative Lives

Ani Javian (Dance)

As yoga, meditation, and other somatic techniques become popularized, the word “mindful” gets tossed around in our culture without truly considering its significance. What does it mean? This seminar works toward understanding and experiencing mindfulness via an introduction to general somatic principles such as self-reflection, sensory awareness, and body/mind integration. Through guided movement explorations and other opportunities for increased self-awareness, we may become more adept at tuning in to our interior selves, to the world around us, and to the earth that supports us. There will be some movement, some drawing, and some discussion as we practice listening to cultivate a holistic body/mind approach to our daily lives. No prior movement experience is necessary.

01:090:101 section 39
Looking East: A Different Way of Learning Dance, Language, Traditional Arts, and Cultures Through Movement

Paul C. Ocroan (Dance)
Chien-Ying Wang (Dance)

This course will investigate various dances, traditional arts and culture of Taiwan, the Philippines, and neighboring countries. Through the lens of dance, students will learn traditional arts and cultures using practices and modality that are fun, interactive and informative. This seminar is designed for students who want to expand their understanding of dance as an emblem of cultural identity and an expression of social order. Along with the practice of dance, we will experience how to prepare traditional foods associated with respective festivities. The food serves as a conduit for a holistic experience to deeper comprehension of Asian cultural arts and heritage. This seminar will include a field trip to New York City.

01:090:101 section 47

Music, Sound, and Landscape

Scott Ordway (Music)

The natural world has always been a primary source of inspiration for musicians. In recent years, composers have continued this tradition by creating powerful works in response to contemporary environmental issues such as global warming, carbon emissions, and wilderness conservation, among others. In this seminar, which is led jointly by composer Scott Ordway and scholar, educator, and critic Anette Freytag, students will listen to and discuss classical and contemporary vocal and instrumental works that address and celebrate humanity’s efforts to live in harmony with the natural world. They will furthermore investigate how video, sound recordings, and digital tools of analysis and fabrication can change both the perception and the representation of our environment. They will get insight in how to use these tools for their own research, compositions, and designs.

01:090:101 section 48

Who Needs Music?

George Stauffer (Music)

Is music an essential part of life? Is it really necessary? History, both ancient and modern, suggests that humans can’t live without it, and that it has been with us since the earliest days of our existence. The present seminar will explore the role of music in modern life—from ritual to rap, from ballet to Broadway, from concert to commercial, from movie to muzak—to weigh just how important it is, and why humans are so affected by it. The class, which will include field trips, will explore a wide range of music, including works by Lady Gaga, the Beatles, John Philip Sousa, Bach, Jay-Z, Tchaikovsky, Rodgers and Hammerstein, and others. The text will be Daniel J. Levitin’s provocative This Is Your Brain on Music: The Science of a Human Obsession. The first class will be devoted to an intensive analysis of Lady Gaga’s Bad Romance. We go from there.

01:090:101 section 34

The Problem of Evil in Philosophy and Popular Culture

Trip McCrossin (Philosophy)

The problem of evil, as Susan Neiman has described it, is the perversely difficult to satisfy “need to find order within those appearances so unbearable that they threaten reason’s ability to go on,” as when (at times incomprehensibly) bad things happen to (at least relatively) good people, and (at least relatively) good things to (at times incomprehensibly) bad people. Central to her watershed perspective on the problem are two related propositions. She proposes, on the one hand, that midway through the Enlightenment, the problem of evil developed, in addition to the traditional theological version—according to which human reason strains, in the above “find order” spirit, to reconcile conscious human suffering with faith in divine wisdom, power, and benevolence, which either makes or allows it to happen—a more secular version as well. Here, while it’s no longer in response to suffering’s ostensibly divine origin, reason strains similarly nonetheless, so much so as to call into question, as the theological version does already, reason’s very ability to make the order it so fervently desires. She goes on to propose, on the other hand, that in response to both versions of the problem primarily two competing perspectives arise, which competition defines us all today, beginning with the public rivalry between Rousseau’s and Voltaire’s, the former insisting that “morality demands that we make evil intelligible,” the latter that “morality demands that we don’t.” The seminar is designed to have participants work together to identify and elaborate the various ways in which these competing perspectives endure in philosophy and popular culture.

01:090:101 section 59

Examining Archives Through the Lens of Popular Culture

Christie Lutz (Special Collections and University Archives)

In this course, students will learn about what archives and special collections are and how they can be used for research. We will be examining popular culture collections in Rutgers Special Collections and University Archives that document a wide range of topics such as the New Brunswick music scene, cookbooks from around the Garden State, magazines representing a wide variety of subcultures, protest movements posters, and Jersey Shore memorabilia. This hands-on use of archival materials will enable students to better understand the world around them.

01:090:101 section 38

Dance Improvisation: Tools for Creating Performance and Choreography

Julia Ritter (Dance)

This seminar will provide students with an introductory experience of dance improvisation as a skill for developing choreography and performance. Students will explore a range of physical exercises yet no previous training in dance nor special attire is required; sweatpants and t-shirts are acceptable. Students will learn how to develop multidisciplinary approaches to dance improvisation that can be deployed when creating choreography for the stage, when organizing flash mobs, and/or devising other performance events. Building upon body, space, time, energy and relationship as the core conceptual elements of dance, students learn strategies for generating movement vocabularies from a variety of inspirational sources including sound, visual art, dramatic situations, and architectural design, among others. The seminar includes a field trip to a performance in New York City.

01:090:101 section 34
SOCIAL SCIENCES

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Global Islamophobia in an Era of Populism
Sahar Aziz (Law)
Western nations are experiencing a wave of populism eroding the liberal values these nations boast as setting them apart from illiberal regimes in the Global South and East. Animated by a sense of victimhood, an increasing number of citizens from majority groups are attracted to populist rhetoric by right wing ideologues who condemn immigrants, Muslims, and racial minorities as threats to liberal democracy. The stronger the populists become, however, the more the very system they purport to protect is destabilized. As xenophobia and Islamophobia is normalized in mainstream U.S. media and among right wing politicians, the chorus of populism demands building walls, banning Muslims, ending affirmative action, and restricting religious freedom. In this seminar, students will learn to think critically about the social, economic, political, and legal factors that contribute toward prejudice and discrimination against Muslims and Arabs in the United States and Europe in an era of rising populism.

01:090:101 section 01

“Inner Engineering” for Wellbeing and Thriving in College, Work, and Life
Tracy Chang (Labor Studies and Employment Relations)
“Inner Engineering” is a comprehensive science-based yoga and meditation program designed by sadguru (2016). The program equips one with effective tools to build competence on self-mastery of mind, body, emotion, and energy. With this self-transformation, students will be energetic, joyful, mindful, healthy, and fully functioning and realize their highest potential in college, work, and life. Students will learn the Inner Engineering tools and learn about the research project that examines the effect of the tools on employee wellbeing and engagement in the workplace. Students will read the book “Inner Engineering” and keep a reflective journal weekly and engaged in didactic inquiry in class.

01:090:101 section 04

HONORS COLLEGE SECTION
Selfies and Digital Culture*
Mary Chayko (School of Communication and Information)
“Selfies,” or photographs that an individual (or a group) takes of themselves that can be privately held, transferred to others, or displayed via social networks, are becoming a popular and culturally significant way that knowledge is produced and shared in modern digital cultures. In this seminar, we focus on three questions drawn from the instructor’s research and that of others who study selfies and digital culture: How do selfies “speak” as cultural objects, and how do they compare to other forms of communication and art? How is knowledge produced and shared in the process of communicating via selfies? How are power differentials expressed and experienced as selfies are taken, shared, and given meaning in a digital culture? The seminar includes two visits to the Zimmerli Art Museum.

01:090:101 section 06

*This section is available to Honors College Students only

Talking Politics: Disagreeing Without Being Disagreeable
Randi Chmielewski (Eagleton Institute of Politics)
Elizabeth C. Matto (Eagleton Institute of Politics)
In order for democracy to work, citizens need to be able to talk to each other. Addressing public policy challenges, such as stable economic growth, health care, and college affordability, requires reasoned deliberation, critical thinking, and open and civil discourse. Unfortunately, such models of political discussion can be few and far between in contemporary American politics. This seminar considers why engaging in honest but civil political discussion is integral to American democracy’s success, and explores productive ways to go about it. Topics that we’ll consider include: What are the effects of adversarial political interactions on the political process? What steps can be taken to ensure that political discussions are productive? How can we have respectful and honest conversations about public problems and their proposed solutions when we disagree? Students will be exposed to a range of examples of political deliberation (some contemporary and some historical), will witness models of political discussion regarding current policy issues, and will be offered opportunities to build their own skills in political discussion.

01:090:101 section 09

The Books That Make Us
Marija Dalbello (Library and Information Science)
In this seminar, we will examine the life-stories of select monuments of writing, such as the Sumerian clay tablets, the original (Hokusai) manga, the Gutenberg Bible (the first major book printed with the printing press), and Carl Jung’s notebooks. We will consider their material life, the technologies necessary to produce them, and the meanings that they had for their contemporaries. How did people make these seminal works, and why? How do such important works help us make sense of our world? In what sense do these works represent revolutionary text technologies and how have they revolutionized the world of ideas? We will also think about writing itself as a technology that encompasses letters, drawings, graffiti, and illustrations; and learn how texts can be handwritten, painted, or inscribed, as well as mechanically and digitally produced. We will explore a wider context for circulation of books, texts, and reading across media forms. In order to view, handle and examine actual specimens, we will visit a rare books library in the area or New York City, and use the collections of the Zimmerli Art Museum at Rutgers.

01:090:101 section 20

Fundraising Principles: Raising Money for Good Causes
Richard Edwards (Chancellor Emeritus and University Professor)
How do nonprofit organizations raise money? In this seminar, you will gain knowledge and skills to help lead student-sponsored fundraising events on campus, in your community, and beyond. Building on fundraising experiences you may have already had in community, school, or faith-based organizations, this seminar will introduce you to the basics of fundraising theory and practice, including special event planning, individual solicitations, and telethons. Participants will benefit from Rutgers fundraising experts and guest speakers. The seminar includes discussions, role-playing, and presentations, and the class will review fundraising events that have been successfully implemented by local nonprofit and public charity organizations.

01:090:101 section 10
Growing Up on Psychiatric Meds: Is It Me or My Meds?

Jerry Floersch (School of Social Work)

This seminar will focus on the experience of growing up on psychiatric medications. This seminar will explore how medicated individuals—along with parents, peers, teachers, siblings, doctors and therapists—to construct medication narratives. Three elements of the psychiatric medication narrative will be explored: 1) what problem does medication solve? 2) what are the daily social, physical and psychological effects (including side effects) and, 3) what is implied or promised to those who comply and take medications every day? These elements are made dynamic through multiple and often contradictory interpretations of the medication experience.

01:090:101 section 52

Criminal Court War Stories: Trials and Tribulations

Monson Heumann (Political Science)

We begin with reading a journalistic account of criminal justice in Chicago. This is followed by a more general discussion of criminal justice across many cities. Next a prosecutor, defense attorney, and judge speak to the seminar and share their experiences with particular emphasis on their most memorable cases and with their most poignant insights from their careers working in the courts. Students have the opportunity to carefully question the speaker, and test hypotheses derived from the readings against the speakers’ experiences.

01:090:101 section 53

Getting It Done: Managing Information for Better Performance

Triveni Kuchi (Rutgers UniversityLibrarians)

With emerging information and communication technologies, the plethora of information constantly generated is overwhelming. Such an information environment directly affects the way you discover, keep, use, re-use information for your research. How do you manage your information files? What organizing schemes or strategies for managing information are out there? What works, what doesn’t, and why? This course will focus on understanding what information management entails; and how it requires an active, deliberate selection among alternatives, and a critical and habitual pursuit of analyzing and re-categorizing information. Through readings, class discussions, hands-on labs, and guest speakers, students will reflect, analyze, compare and use information organizing schemes or tools for managing a variety of different types of information. Final presentations will allow each student to creatively explore particular information management tools that are used at either the organizational or the individual level in more detail.

01:090:101 section 51

The History, Architecture, and Historic Preservation of New Brunswick and Rutgers University

David Listokin (Bloustein School Of Planning and Public Policy);
James W. Hughes (Bloustein School of Planning and Public Policy)

New Brunswick and Rutgers is your community for the next four years—so it is important that you know more about both the “town” and “gown.” This seminar will present the long and proud history of both New Brunswick and Rutgers University. Next it overviews American architectural history and its historic, social, cultural and economic influences. Following that background, the important buildings (current and past) and their architecture in both New Brunswick and Rutgers are presented and how their physical setting has changed and are reviewed. This sets the stage for a broader discussion of historic preservation in the United States as well in the New Brunswick and Rutgers settings. The seminar includes extensive historical and visual materials as well as an architectural walking tour field trip to architecturally and historically significant New Brunswick and Rutgers buildings. This seminar will broaden the historical and architectural context of New Brunswick and Rutgers—students’ new home away from home—and will present important foundational concepts in the disciplines of history, architecture, urban planning, and public and educational policy. It will also briefly instruct students in developing and presenting an effective Power Point presentation. The two seminar instructors combine more than 100 years’ experience of teaching and research at Rutgers.

01:090:101 section 23

The Politics of Identity and the Common Good: To the Left, to the Right?

Jeffrey Longhofer (School of Social Work)

This 12 week seminar will focus on the politics of identity and different kinds of claims for social justice. Some, for example, argue for redistribution of resources and others for recognition of cultural differences. Many have argued that these kinds of claims lead to polarization (e.g., choosing between class politics and identity politics). The seminar will consider how the problem of “identity” emerges with modernity. We will explore the meanings of and problems associated with personal and group identities. We will consider the ways that finding oneself in a universe of potential identities is simultaneously challenging and problematic. Finally, we will consider how a politics of identity competes with, supports, or undermines a politics of the common good.

01:090:101 section 22

Playing to Learn in Higher Education

Megan Lotsis (Rutgers University Libraries)

Play can create a dynamic narrative that promotes engagement and community, as well as fosters creativity and problem solving which are crucial to innovation. Play also builds strong communication and social skills, and these skills can be helpful when creating knowledge, performing scholarly research, or engaging with one’s peers. Play can mean anything and be all-inclusive, encourages exploration, cross-disciplinary collaboration, and the chance to embrace failure as a positive part of learning. Play is an experience that is often lacking in higher education and yet a skill that many students are familiar with. This course will look closer at play, why it is an important part of our everyday lives, as well as its presence in higher education.

01:090:101 section 43

The Art and Science of Positive Leadership

Sharon Lydon (Associate Dean of Alumni and Corporate Engagement, Rutgers Business School);
Nancy Mark (Former Director of Health Care Compliance & Privacy, Johnson & Johnson)

Throughout history, and certainly during the history of the United States and Rutgers University, progress has been synonymous with leadership. The revolutionary understanding of leadership is that it is everywhere and in everyone’s capacity. While some may be born with a number of the attributes needed for outstanding leadership, it is well accepted, that leadership is something that can be learned and that can be studied. This seminar explores qualitative and quantitative research on “leadership,” and reviews research and theory toward the goal of empowering students to be leaders in all aspects of life, including college, career, and community. Topics include leadership in academic, corporate, and nonprofit work environments, as well as leadership styles and competencies. Relevant issues related to women and ethnic minorities will also be discussed. The course includes readings and dynamic discussion, debate, role-play scenarios, and real-world visibility and exposure to leadership with distinguished course co-instructors, and guest speakers from academic, health care sector, and corporate leadership contexts.

01:090:101 section 24

Collaboration for Learning and Performance

Angela O’Donnell (Educational Psychology)

This course will introduce you to collaborative and cooperative learning. We will explore ways to create successful learning and work teams. The content of the course is intended to provide some practical help to people who wish to use cooperative and collaborative learning in their classrooms or in other situations. We will explore what it means to be collaborative or cooperative and what impediments there might be. The primary focus of the course is on understanding why one might use cooperation or collaboration by examining underlying theory that might inform practical choices. The course will explore the journey towards a cooperative spirit and the outcomes that can result.

01:090:101 section 50

Media in the Digital Age

John Pavlik (Journalism and Media Studies)

Understanding the nature and impact of digital technology on media and society is the focus of this seminar. Students examine the changing nature of media in the digital environment, including social media, and their consequences, especially implications for civility, democracy, journalism and beyond.

01:090:101 section 16
Culture Games: What Do Major Sporting Events Tell Us About Society and Culture?
Mark Schuster (American Studies, Dean for Graduate Student Life)
American spectacles surrounding sports, athletes, fans and their hero(ines) have articulated an exhilarating and complex narrative of American culture. What role does athletics play in a college education? What do major sporting events tell us about our American identities, communities, culture and society? A variety of sport controversies will be examined such as steroid use, body fascism, violence, power, and the role of media and the NCAA in American athletics. Sport spaces, the intersections, and assumptions of class, ability, race, gender, and sexuality and social change will be scrutinized.
01:090:101 section 82

Community Engaged Scholarship to Support Health and Wellness: The Role of Information in Addressing HIV/STIs
Charles Senteio (Library and Information Science)
Urban areas across the U.S. are saturated with technologies that can be used to find, store and retrieve health information (e.g., phones, wireless networks, and wearable devices). Communities which have been traditionally underserved by healthcare systems, social services, and municipal facilities experience barriers to these services, in addition to barriers to information and communications technologies (ICTs). These structural barriers contribute to persistent disparities in health outcomes and in technology acceptance and use. Many of these communities also have established faith-based organizations (FBOs) which provide both spiritual support and serve as information hubs. FBOs remain important sources of social capital and continue to be conduits between underserved communities and institutions.
We will begin the course with an overview of engaged scholarship, then students will review drivers of health inequity by focusing on social determinants of health. We will also review the literature on technology acceptance and use and the distinct issues which face urban communities. The central assignment of the course is a project in which students will focus on the role of information and HIV/STIs (Sexually Transmitted Infections), a persistent health issue facing urban communities across the U.S. and around the world. Students will form small groups and select a community leader experienced with community-academic partnerships to "interview" to further understand issues facing the particular community the leader serves. Then, students will brainstorm potential ways that Rutgers can more effectively partner with community organizations to support the organization’s objectives while enhancing the teaching, research, and service activities across the University. The project’s aims will include how to generate, disseminate, apply, and preserve knowledge to create benefits for both the community and Rutgers.
01:090:101 section 55

Governors 2020: The Most Overlooked Powerful People in Politics
Kristoffer Shields ( Eagleton Institute of Politics)
In 2020, 11 states will hold gubernatorial elections, contests nearly as crucial to our nation’s future as the more “popular” one taking place at the federal level. In this seminar, we will study and track these gubernatorial elections, answering a number of key questions about the races and the office in general. Which races are the most closely contested (and why)? What national trends can we find across multiple state races? How are the races relevant to the presidential election? What is the governor’s role in the upcoming census and redistricting process, and why is that process so crucial? How can students and other young people be involved? To the process of analyzing the races, we will also discuss the often overlooked importance of the governor to our democracy, both as the state’s chief executive and as one of a state’s key representatives in our federal system. We will get help and expert analysis along the way from people who have “been there:” former gubernatorial candidates, staff members, campaign professionals, and a former governor or two.
01:090:101 section 30

Visualizing Data to Tell a Story
Anselm Spoerri (Library & Information Sciences)
Students will learn about the principles and techniques necessary to tell a story using data visualization tools. They will analyze examples of successful visual data stories and learn to create effective visualizations using tools such as Google Motion Charts and Tableau. Students will work in teams to collect and prepare a rich data set that can be visualized as an interactive and engaging data story.
01:090:101 section 87

9/11 and American Religion
Hililt Surwitz-Israel (Religion)
This seminar will explore the events of September 11th, 2001, and their aftermath from the perspective of American religious history. That is, the ways in which America’s responses to 9/11 are in dialogue with religious themes and motifs. Some of the themes to be discussed include: A. The sanctification of urban space. Focusing on the ways in which Ground Zero is understood as a sacred pilgrimage site. B. Contested Space. The controversy over the construction of the Park 51 Islamic Community Center. C. Martyrs and Heroes. The ways in which first responders have been represented in American culture, with a focus on the use of traditional religious motifs and language. D. Architecture and Rebuilding. The cathedral-like architecture that graces the 9/11 Memorial and Museum site today. E. Ritual and Memory. The acts of ritualizing September 11th, and the religious dimensions of these ceremonies. The course will introduce students to the concepts of American Civil Religion, and sacred space and memory to name a few. Some of the theoretical issues to be explored are Mircea Eliade’s concept of hierarchies and axis mundi, Jonathan Z. Smith’s discussion of ritual and sacred space, and the relationship between architecture and memory. These topics will be introduced through an examination of art, popular media, and graphic novels, among others.
01:090:101 section 08
Social Engagement in XR (Extended Reality)

Daniel Swern (School of Communication and Information)
Richard Anderson (Division of Continuing Studies; Rutgers Makerspace)

Cities face challenges when it comes to messaging about available social services, historical curiosities, and creative culture. Community access isn’t necessarily limited by financial or bureaucratic barriers, but through wayfinding and navigation due to poor signage or a dearth of public information. Through web-based tools in XR (extended reality, inclusive of augmented and virtual reality), our smartphones can give us the ability to immediately reveal resources hidden in plain sight as well as provide on-the-fly context and insight for both our built and natural environments. XR integrates real world experience with virtual world access. When produced as a robust community-based ecosystem, XR adds another layer of texture to the places where we live and work, and fundamentally changes the way we think about a traditional neighborhood. By using the mobile camera to frame and interact with the world, we’re helping people frame and interpret what they are seeing. Through the use of game mechanics and incentives, we’re enhancing and encouraging exploration and fighting isolation between individuals. Students will learn augmented reality 3D modeling and game development in Unity (ubiquitous developer software), and meet with New Brunswick community and nonprofit leaders to marry their applied technical and creative skills with real world service access needs. Deiner Park on College Avenue Campus will serve as the real world workspace for XR development as it is public space right on campus that represents a convergence of unique creative, environmental, residential, transportation, and service access challenges and opportunities to be explored in the technology lab.

01:090:101 section 55

Information Inequality

Lily Todorinova (Rutgers University Libraries)

In this course, we will develop an understanding of information as a commodity, with a richly contested value for both individuals and societies. This course will engage with different types of information inequalities, such as those between economically rich/poor societies, as well as situations where information is restricted or censored. From the level of societies, information is politically and economically charged. The ubiquity of information technology in the West makes it easy to overlook the persistence of vast areas of information poverty in the world. This global digital divide of access to technology and information literacy, continues to threaten human rights, development goals, and political stability. Information also has a private and personal value. We will examine case studies of how governments and corporations quarantine information and what this means about our own information “worth.” In addition to class discussions, we will develop information literacy skills and use scholarly resources available through the Rutgers University Library to explore these topics.

01:090:101 section 31

The Presidential Election of 2020

John Weingart ( Eagleton Institute of Politics)

Every four years, the ongoing presidential election is often described as the most important of our lifetime and perhaps in the nation’s history. Virtually all other international and domestic events are interpreted in terms of their impact on the eventual outcome of the race. When it is over, historians look back, analyze what happened, and debate about why it happened and whether or not the results were inevitable. The year 2020 - before it becomes history - offers us all a front-row seat to observe and, if we choose, participate in what will certainly be the on-going dominant, dramatic and consequential story of the year as it is covered in the news media we consume and also reflected in many of our conversations with family and friends. This course will provide an opportunity to reflect upon and discuss the campaign as it is happening with the first four primaries and caucuses taking place in February and more than 25 more in March. Most of the readings for the course will come from Playing With Fire: The 1968 Election and The Transformation of American Politics, the book Lawrence O’Donnell of MSNBC wrote in 2017 looking back at the presidential election that had occurred when he was 17 years old.

01:090:101 section 36s

American College Life for First Year International Students

Dake Zhang (Educational Psychology)

Have you ever experienced any culture shock during the first year at Rutgers? In what ways is the college experience in the United States different from the experience if you studied in your home country? What do you expect from your college experience here and how do you look at the challenges that you will face? In this course, we will share our personal experiences, difficulties and our coping strategies. Topics to be discussed in this course include: speaking English as a second language, academic opportunities and challenges, American food, housing, and transportation, campus safety, sexual and physical harassment, social experiences, and employment opportunities. We will also talk about how to make use of our unique cultural background and our Rutgers experiences at Rutgers to better develop our future careers.

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“You Don’t Eat Meat?!” A Cultural Investigation of Meat Consumption / 29
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Permaculture: Integrating Land, Resources, People, and the Environment
Anita Bakshi (Landscape Architecture)

Permaculture involves creating integrated systems of food production, housing, sustainable technologies, and community development. Originally conceptualized as an approach to creating permanent agriculture, the permaculture movement has developed into a whole systems approach with concepts that can be applied to social, cultural, and economic systems. Permaculturists today include not only farmers, but also community organizers, social workers, and software developers. Beyond food systems and ecological design, permaculture principles can be used to rethink the built environment, business models, and decision-making processes. Seminar sessions will include: lectures and documentary films about inspiring permaculture projects from around the world; class exercises that will help you feel empowered to make change; and short skills sessions. You will learn to apply small-scale interventions: use cardboard and old newspapers to sheet mulch, calculate rainfall on your roof and find ways to collect it, find healthy wild food and medicine, set up a currency-free barter market, and begin to compost – even if you have only the space under your kitchen sink to do it.

11:090:101 section 03

The Doctor Is In: Malevolent and Magnificent Microbes
Joan Bennett (Plant Biology and Pathology)

Microbes are organisms too small to be seen by the naked eye. The best known cause diseases but most microbial species are an essential part of the living world. The course will discuss the role of selected microbial (1) diseases in human history (e.g., plague, syphilis, tuberculosis); (2) foods (e.g. bread, miso, yogurt) and beverages (e.g. beer, wine) fermentations; (3) sources of biologically active chemical compounds (e.g. hallucinogens, penicillin, streptomycin); and (4) processes (e.g. bioremediation). Microbial 1) diseases in human history (e.g., plague, syphilis, tuberculosis); (2) foods (e.g. bread, miso, yogurt) and beverages (e.g. beer, wine) fermentations; (3) sources of biologically active chemical compounds (e.g. hallucinogens, penicillin, streptomycin); and (4) processes (e.g. bioremediation).

11:090:101 section 10

High-Tech Sustainability: Food for Thought
A.J. Both (Environmental Science)

We all need (and love) to eat. But do you ever stop and think: how is your food produced and where does it come from? How can we maintain a safe and year-round supply? In this course, we will look at ways in which we can use technology to create more sustainable systems of agriculture. In particular, we will investigate the challenges and opportunities associated with greenhouse production. Students will be exposed to greenhouse crop production, review and discuss the necessary inputs required for greenhouse production, complete a writing assignment and make their own presentation discussing a topic related to greenhouse production.

11:090:101 section 01

The History and Culture of Microbiology in New Jersey and Beyond
Jeff Boyd (Biochemistry and Microbiology)

The scientific misconception that all microbes are “bad germs” is not lost as students enter college. In general, most people do not understand that microbiology plays a positive role in their everyday lives and it is ingrained in our personal history, socially, as well as biologically. My goals for the course are to excite incoming students about microbiology, inform them about how important microbiology is to our everyday lives and cultural heritage, and recruit students to STEM disciplines. New Jersey has a large immigrant population, which contributes to Rutgers having the most diverse student body of any American university. One aspect shared between people from every culture and religion is that they enjoy signature fermented foods and beverages. Although students may have a cultural appreciation for these foods, they might not be aware that microbes are essential for producing them and that these traditions are shared with other cultures. Throughout the course, students will be introduced to microbial physiology and the basics of fermentation. We will discuss what the microbes gain from fermenting sugars or amino acids and what we gain from the fermented foods and from ingesting the associated live microorganisms. We will discuss the historical importance of fermented foods and the importance of fermentation byproducts as flavor enhancers and preservatives. We will then embark on a journey through representative cultures and their signature fermented foods. Our goal for the end of the class will be to discussing alternate biotechnological applications of microbes and how microbes can be used to help address problems currently facing humanity and the earth.

11:090:101 section 58

Beyond the Big Bang Theory*
Alyson Brooks (Physics and Astronomy)

Ever wondered what the life of an astro/physicist is really like? It’s not what you see on “The Big Bang Theory,” and it rarely involves white lab coats. Real scientific research is a highly creative, interactive process that requires scientists to constantly collaborate in order to problem solve and develop new ideas (and frequently travel to accomplish this). Come experience it for yourself! In this seminar, students will experience the process of research firsthand. You will learn basic skills to prepare you to participate in research for the remainder of your undergraduate studies and beyond. Those skills (e.g., an introduction to scientific computing, using basic programming to plot data, how to read a scientific article) will be applied to a short, five-week research project of your choosing, led by mentors in the Physics & Astronomy Department. Students will also learn to present their research, both to a scientific and a general audience. Students will get to know each other through both casual and work interactions, including a visit to the Hayden Planetarium at the American Museum of Natural History in New York City.

11:090:101 section 05

*Open to RJH 1st students

Eliminating Cancer: Novel Targets and Therapeutic Approaches
Sunita Chaudhary (Rutgers Cancer Institute of New Jersey)

In this seminar learn how the most recent discoveries through cancer research are being translated into cutting-edge treatments for cancer patients. New approaches utilizing computer-assisted diagnostics, medical imaging and statistical pattern recognition allow for a more accurate diagnosis of a range of malignancies. Comprehensive genomic profiling of tumors through next-generation sequencing technologies offers the promise of personalized cancer therapy with targeted drugs. We will discuss the innovative immunotherapy approaches that are being utilized to harness the immune system in the fight against cancer and translational clinical trials that are being tested to study novel drugs in patients.

11:090:101 section 12

The New Theory of Human Memory
Arnold Glass (Psychology)

Ask me to tell you the story of my life, and I will weave an answer based on what I best remember of my experiences. But are all of my memories real? How many of my memories are being tested to study novel drugs in patients? New approaches utilizing computer-assisted diagnostics, medical imaging and statistical pattern recognition allow for a more accurate diagnosis of a range of malignancies. Comprehensive genomic profiling of tumors through next-generation sequencing technologies offers the promise of personalized cancer therapy with targeted drugs. We will discuss the innovative immunotherapy approaches that are being utilized to harness the immune system in the fight against cancer and translational clinical trials that are being tested to study novel drugs in patients. How can we maintain a safe and year-round supply? In this course, we will look at ways in which we can use technology to create more sustainable systems of agriculture. In particular, we will investigate the challenges and opportunities associated with greenhouse production. Students will be exposed to greenhouse crop production, review and discuss the necessary inputs required for greenhouse production, complete a writing assignment and make their own presentation discussing a topic related to greenhouse production.

11:090:101 section 01

Stem Cells and Bioengineering
Li Cai (Biomedical Engineering)

Bioengineering and regenerative medicine seek to develop new therapies for patients with injuries and degenerative diseases. The source of cells for these therapies remains a hot topic of interest. The unlimited potential of stem cells has ignited the creativity and imagination of scientists across multiple disciplines. Future development of this technology depends on increased understanding and effective utilization of stem cells. This seminar will introduce students to the biological, biomedical, biomaterials, and bioengineering of this new discipline. Students will be introduced to the world of stem cells. We will discuss their definition, origin, and classification, as well as applications of these cells in regenerative medicine. Upon completion of this seminar, students will know the intellectual and conceptual vocabulary required to further pursue an interest in stem cell research and the regenerative medical profession.

11:090:101 section 60

NEW YORK UNIVERSITY
Function of Love, Work, and Knowledge in Organic Food and Farming
Joseph Heckman (Plant Biology)

Nurturing the linkage between healthy soils, plants, animals, and people was the original motivation for organic agriculture. While its modern market share and organic certification is celebrated as the result of a phenomenally successful movement, others bemoan the discontents of industrialization. As a mechanical attitude towards life infects all of culture, organic agriculture risks becoming a machine to be similarly manipulated and exploited. As an alternative, functional organic farming would emulate ecology, be self-regulated, and guided by Love, Work, and Knowledge. In this course, we will study traditional organic food and farming systems through field trips and film, the lens of modern science, selected writings of organic pioneers and trailblazers such as Albert Howard, Lord Northbourne, Weston A. Price, and others, and the bio-energetic insights of biologist and natural scientist Dr. Wilhelm Reich, who famously said, “Love, work and knowledge are the wellsprings of our life. They should also govern it.” It will also explore the emotional attraction of young people to organic farming, fertile soil, and nourishment with farm fresh whole ingredients.

Where’s My Bus? Everyday Impacts of Models and Algorithms
Charles Keeton (Physics and Astronomy; Academic Dean, School of Arts & Sciences; Honors Program)

How many times have you waited for an N bus only to see three L’s roll by? And when the 4 finally arrives, it’s so packed that you can’t get on? Have you ever wondered how the university decides how many buses to run, and when? The answer is by building models of student bus travel. Models, and algorithms based on them, actually permeate our lives, from weather forecasts to political predictions to online shopping and streaming. In this seminar, we will examine models and algorithms to see how they work, how they are built, and how they can be “scientific” even if they aren’t just about science. Through a series of case studies, we will examine the simplifications and assumptions that are built into models, discuss circumstances in which they are reasonable, and consider how and why they break down. We will then think about our own model of Rutgers bus travel, focusing on the information and assumptions needed to make it work. Ultimately, our goal is to understand that “all models are wrong but some are useful” (George Box) and “algorithms are opinions embedded in code” (Cathy O’Neil).

Clean Energy: Batteries and Solar Cells
Lisa Klein (Materials Science and Engineering)

What is needed to improve the sustainable energy technologies we already have? What is needed to make new technologies practical and clean in the area of energy generation? We will explore energy storage in devices such as batteries and energy conversion in devices such as solar cells and fuel cells. We will talk about active research at Rutgers on alternative energy materials and systems. In the lab, we will assemble and test our own dye-sensitized solar cells.

The History and Future of High Speed Passenger Trains
Doyle Knight (Mechanical and Aerospace Engineering)

Over the past fifty years, high speed passenger trains have emerged as a critical transportation resource throughout the world. The era began with the Japanese Bullet Train (Tōkaidō Shinkansen) first service on 1 October 1964. The Japanese high speed train system now provides over 400 million passenger trips per year, and travels at a top speed exceeding 300 km/h. Similar high speed passenger trains have been developed in Europe, China and the US. The Byrne Seminar will trace the development of high speed passenger trains and their future.

The Arrow of Time: Studies of Decay, Entropy, and Timekeeping
Amitabh Lath (Physics and Astronomy)

In this seminar, we will investigate the concept of The Arrow Of Time by first understanding entropy. We will learn to use the Python programming language to calculate probabilities, and from that develop an understanding of entropy and the second law of thermodynamics. We will discuss the ideas of entropy and decay as they appear in literature and culture, including the hold they have in the collective imagination that leads to the rejection of quantitative metrics that show disease, war, and violence decreasing, and the average human condition improving. Finally, we will divide into groups to design and construct working time measurement devices. Using commonly available materials, the groups will make devices to measure one hour as accurately as possible. No clocks allowed!
RI3D! 3D Printing and the Future of How We Make Things
Howon Lee (Mechanical and Aerospace Engineering)
Lee Pagenkopf (Manager, Rutgers Makerspace)
Three-dimensional (3D) printing is a manufacturing technique in which a 3D physical object is created by directly joining constituent materials. 3D printing has received significant attention in recent years due to its potential impact in industry, defense, healthcare, and even for hobbyists. This seminar series will introduce the principles of various 3D printing technologies, their capabilities and limitations, and emerging applications of 3D printing. In addition, recent implementations of 3D printing will be introduced including 4D printing and bio-printing. Students will have opportunities to use 3D printers to print their own 3D designs.
01:090:101 section 63

Food Microbes: What and Where Are They?
Karl Matthews (Food Science)
This course provides a window into the world of food microbiology and food science. We will explore popular trends and myths related to food microbes. Discussions will center on topics including probiotics, double-dipping, food science. We will explore popular trends and myths related to food microbes. Students will be given and overview of how some of these areas are being addressed in real research. Students will present sciencemovie film clips and thumbs up/thumbs down reviews on the science and the art as a required assignment.
11:090:101 section 09

Water Resources Engineering: A Close-up Look at the Raritan River
Monica Mazurek (Civil and Environmental Engineering)
Water quality science and engineering practices are based on measurement data and geospatial information systems and analysis. Water resources management, itself, depends on data, models, analysis of results and optimization of known or estimated system parameters. Understanding watersheds, and specifically the Raritan River watershed, requires integration of field observations, data, models, and critical evaluations of the combined field and modeled results. This seminar series introduces research methods used routinely in water resources practice and applies them to challenges concerning water quantity and quality using the Raritan River as the study location. The three-field trips and seven lectures comprise this Byrne Seminar series providing examples of what water resources engineers and managers experience and the challenges they face.
01:090:101 section 26

Paperbotics and Art
Aaron Mazzeo (Mechanical and Aerospace Engineering)
Pulp-based paper has conveyed information with printed lettering, diagrams, and illustrations for hundreds of years. In these conventional formats, the flipping or turning of pages has required human manipulation. Recent research efforts are beginning to add life and active functionality to paper-based structures in the form of mechanical grippers, manipulators, and locomotors. In this hands-on seminar, students will review state-of-the-art research in paper-based robotics (i.e., paperbotics) and active origami, and then exercise creativity to build paper-based machines that will be capable of motion and interaction with humans. By also planning the aesthetics of their projects, participants in this seminar will go beyond building gadgets to craft functional pieces of art.
01:090:101 section 25

Hollywood Biotechnology, Fact or Fiction?
Paul Meers (Plant Biology)
Biotechnology has been perceived and portrayed in various ways by Hollywood and filmmakers around the world. In this course, we will explore the occasionally wide gap between public perception and the way science really "works." Students will view and discuss the portrayal of bio- and nanotechnologies in popular movies. Misconceptions and accurate portrayals will be analyzed to introduce students to a basic understanding of the latest exciting work in rapidly emerging areas such as genomics and epigenetics. Students will be given and overview of how some of these areas are being addressed in real research. Students will present sciencemovie film clips and thumbs up/thumbs down reviews on the science and the art as a required assignment.
11:090:101 section 09

Earthquake Resistant Structures
Husam Najm (Civil Engineering)
Basidy Basaly (Civil and Mechanical Engineering)
Are you intrigued by earthquakes? Are you curious about learning why some buildings collapse during an earthquake while others don’t? In this seminar we will learn about earthquakes and earthquake engineering, their history, their effect on buildings and bridges and on human life. We will explore the basics of structural engineering; structural materials that can best to resist earthquake shaking, and what factors contribute to a safe design of buildings in seismic zones. This seminar/project will include designing and constructing a 4-story building structure model made of balsa wood to resist ground shaking. The structure will be about 5 ft high and will be placed on a 15 in x 15 in shaker that will shake the structure simulating an earthquake. During the testing, we will record the roof acceleration of each structure and compare the performance of the structures.
01:090:101 section 62

Ethics of Winning a Nobel
How to Win a Nobel Prize and the
George Piecznek (Biochemistry and Microbiology)
The professor teaching this course worked with all the pioneering Nobel laureates of Molecular Biology. He published with Francis Crick, co-discoverer of the structure of DNA, and Crick can trace his scholarly lineage back to Sir Lawrence Bragg, Nobel Prize winner for Physics (1915), who is responsible for the Bragg Law of X-ray diffraction. He published with Sir Aaron Klug, who received the Nobel for optical diffraction and the structure of TMV and with Nobel laureate Sydney Brenner, who discovered mRNA. In this seminar, students will learn about the Bragg equation and simplify it so they can use it to decipher Photo 51. Students will measure parameters from Photo 51 and then re-derive the structure of DNA. An exciting hands-on component of the class will include a lab exercise where students use laser diffraction to determine helical molecular structure. Students will also learn the logic of how Fred Sanger, who received two Nobel prizes, created his RNA and DNA sequencing systems. This changed the whole landscape of science and medicine forever.
11:090:101 section 26

Exploring the Raritan River Basin
David Robinson (Geography)
This seminar will explore the physical geography of the Raritan Basin. The landscape of this basin, in which Rutgers is situated, will be investigated from geological, meteorological, and hydrological perspectives. Human impacts on the landscape from pre-Colonial to Modern times, and a look into the basin’s future will be addressed. Using problem-based learning methods, students will investigate, for example, water quantity and quality, sources of pollution, and changing land use within the basin. The Rutgers Raritan River Consortium and basin partners associated with the Rutgers-led Sustainable Raritan River Initiative have produced a plethora of resources that will be used to support students as they explore these real-world local issues.
01:090:101 section 32

Closing the Gap: Women in Science, Technology, Engineering, and Mathematics
Laura Palumbo (Rutgers University Libraries)
Women have been historically underrepresented in the fields of science, technology, engineering, and math (STEM). Although women today are in leadership positions in STEM professions around the world, a gender gap still persists. This seminar will discuss the various reasons for the existence of this ongoing gender gap, and look at the sometimes little known contributions to STEM made by women in the past and present. We will hear from female professionals working in these fields, and take trips to University labs to meet with female scientists. This seminar will be of interest to students in STEM fields, history, journalism, communication, women’s studies and business.
01:090:101 section 54
Global warming is real, caused by humans, and will be bad for most people – not to mention other living beings. How should society react? To stop global warming, mitigation (using energy more efficiently and green sources of energy) as well as adaptation will be necessary. But if these measures are not sufficient, is there a technological solution to global warming to buy society time to find a permanent fix? Can we actually control the climate with a cloud in the stratosphere to reflect sunlight, brightening clouds over the ocean, putting mirrors in space, or painting roofs white? If we could implement climate intervention, should we, and how would it be governed? Should decisions be based on science, ethics, political preferences? Farmers have tried to control rainfall through ritual and chemistry; the military has tried to use weather as a weapon. The history of human attempts to control weather and climate – and the responses by the public – may tell us something useful as we prepare to make the decision whether to engineer Earth in this way. In this course we will describe the science of global warming and consider some of these geoengineering schemes as well as the consequences they might have, both positive and negative, on society and global warming. We will discuss the history of attempts at weather and climate modification, and the current global legal framework for the implementation and governance of any such schemes. You will leave this course with a better understanding of all these issues, to inform your voting this fall and your future actions to address the issue of global warming, which will influence the rest of your life.

11:090:101 section 05

Global Environmental Health

Mark Robson (Plant Biology; Faculty Director, Byrne Seminars)

There are almost eight billion people in the world today and the population will grow to close to ten billion by 2050. Almost eighty five percent of the population will live in developing countries. One of the challenges for this ever-growing population is providing a secure food supply. We will discuss the trends in global food production and the technology used to increase global food supply. We will also explore the ever-growing global obesity epidemic – while there are 900 million under nourished people in the world there is a larger number of people, close to 1.4 billion, who are overweight. Finally, we will look at the overall health of the global population, their jobs, their lifestyle, and the relationship to global environmental health issues, in particular those dealing with problems such as water and air pollution, food production and safety, and infectious and occupational diseases. Professor Robson will share experiences from developing countries in Southeast Asia and West Africa. Case studies and current research will be used as illustrations.

11:090:101 section 13

Food: What Do We Eat? Where Does It Come From? How Do We Grow It?

Mark Robson (Plant Biology; Faculty Director, Byrne Seminars)

This five-week seminar will discuss what we eat and the origin of foods and how we grow and prepare them. We will look at the two ends of the food supply, the one billion people who suffer from lack of calories and food insecurity and the one billion people who are chronically obese and suffer from a series of non-communicable diseases. We will talk about how food is grown, shipped, and marketed. We will discuss personal choices and better eating.

11:090:101 section 14

Opportunities and Challenges in Nanomedicine

Charles Roth (Biomedical Engineering, Chemical and Biochemical Engineering)

This seminar will introduce students to opportunities and progress to date in nanomedicine, the application of nanotechnology to human health. Both technical methodologies and economic/social/regulatory considerations will be discussed. A number of the class meetings will feature instructor-guided discussions based on readings from both the scientific literature and popular press. Students will also be introduced to nanomedicine research at Rutgers through laboratory demonstrations or tours and informal talks given by current undergraduate and graduate researchers.

01:090:101 section 29

Brunswick, Body, and Bones

Sue Shapero (Nutritional Sciences)

Julia Grimes (WAMS-General Internal Medicine)

While many know that healthy living and physical activity play important roles in the academic achievement of students, adjusting to life as a first year college student can be challenging. Unfortunately, poor eating habits and decrease in physical activity are not uncommon. The objective of the seminar is to promote health and wellness by understanding nutrition, body composition to maintain proper body weight, lean body mass and bone health. We will engage cycling because it is an effective low-intensity way to stay fit and healthy by providing benefits such as increase strength and endurance as well as decreasing fatigue. Furthermore, bike-friendly communities have higher levels of mental health and well being. In addition to recognizing cycling impact on transportation, cycling safety and skills and planning will be explored. We will help students develop critical and analytical thinking skills on related health topics.

11:090:101 section 02

Food Insecurity: Drivers and Effects

Jennifer Shukaitis (Family and Community Health Sciences)

Sara Elaniki (Family and Community Health Sciences)

Food insecurity is defined as the state of being without access to a sufficient quantity of affordable, nutritious food. This term replaced the word “hunger” several years ago in an attempt to describe the persistent issue that 35 million Americans face everyday of not being able to put food on the table. Hunger and food insecurity are related, and both are large and complex problems. Government and other policy makers have taken steps to alleviate food insecurity; however, the problem endures. This course will explore how the terms food insecurity and hunger are used, how to define and measure hunger and food insecurity, and how larger issues such as food environment, poverty and transportation are tied to food insecurity. Students will learn to think critically about the presence of hunger and food insecurity in a wealthy nation such as the U.S., as well as learn how individuals and communities can influence food policy decisions. Topics introduced will include food systems, community nutrition, food deserts, poverty, emergency food programs, and government nutrition programs. An emphasis on Social Determinants of Health and a discussion of how health and food insecurity affect each other will be a topic of discussion. Students will analyze community food maps, and review various interventions designed to improve food security. Students will learn about the various federal and state safety net programs that are meant to reduce food insecurity, and how current policies and political environments affect them. Looking at food insecurity in a holistic sense will allow students to develop critical thinking skills and introduce them to a wide range of topics in the food security field.

11:090:101 section 15

In your Sunday afternoon seminars on related health topics, you will hear a speaker from Rutgers dining services to learn about what Rutgers is doing to reduce meat consumption, visit a Halal market, go to a vegan lunch, and watch the documentary Cowspiracy. For the final couple of weeks, we will work together as a class to develop ideas about how we may reduce meat consumption in American diets.

11:090:101 section 04

Experiencing National Parks and Parklands

David Tulloch (Landscape Architecture)

From Yellowstone to Yosemite, National Parks and Parklands are designed to send all sorts of messages to their visitors. This class will explore ways that National Parks (focusing primarily on those in the U.S.) communicate messages to visitors. Designers have also employed precisely aligned roads and buildings rich in symbolism to communicate with visitors at an experiential level. Published materials, such as the impressively consistent NPS brochures used at every park, and carefully designed signs provide an overt system of communication. The class will visit a NPS site to look for messages and learn more about this amazing network of natural treasures.

11:090:101 section 11

Addiction

Mark West (Psychology)

Do people become addicted to technology? Although some students have direct or indirect experience with substance abuse, all will have experienced the lure of the iPhone, TV, web surfing, texting or playing video games. This seminar will encourage students to describe the behaviors they observe in themselves or others. We will explore the cognitive processes involved in starting, repeating or persevering in technology related behaviors. The goal will be to discuss whether these behaviors are similar to or different from DSM V criteria for addictive behaviors such as substance use, binge eating disorder, or gambling. We will come to understand the scientific knowledge created by clinical and preclinical researchers on addictions, including the neural underpinnings of behavioral and cognitive processes of the drug use. Ultimately, students will learn to identify warning signs in themselves or others when succumbing to self-defeating behaviors related to technology.

01:090:101 section 65

“Your Don’t Eat Meat?!” A Cultural Investigation of Meat Consumption

Rashel Shboun (Human Ecology)

Cara Calu (Human Ecology)

In this seminar we will explore the question: if eating meat is cruel to animals, bad for your health and bad for the environment - why do we continue to do it? Students will read writings by ethicists, environmental scientists, historians, anthropologists and others to explore the roots of and implications of meat eating in the US and other societies. Students will write short paragraphs on these readings to relate them to their own experiences and knowledge and come to class to discuss these readings. They will use an on-line app developed by the instructors research team to understand the environmental implications of their diet and meat eating. They will have a speaker from Rutgers dining services to learn about what Rutgers is doing to reduce meat consumption, visit a Halal market, go to a vegan lunch, and watch the documentary Cowspiracy. For the final couple of weeks, we will work together as a class to develop ideas about how we may reduce meat consumption in American diets.
ABOUT BYRNE SEMINARS

The First-Year Seminars at Rutgers-New Brunswick were launched in fall 2007, and the program was re-named the Byrne First-Year Seminars in fall 2008 to honor a generous donation by Mr. and Mrs. John J. Byrne. Mr. "Jack" Byrne graduated from Rutgers College in 1954. Byrne Seminars were created to realize the Byrne family vision of introducing students to research faculty in a small seminar setting at the outset of their academic journey.

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