



THE ACADEMY EDUCATES, TRAINS AND INSPIRES MEN  
AND WOMEN TO BECOME OFFICERS OF CHARACTER.

## BEHAVIORAL SCIENCES MAJOR

### Suggested Course Sequence

3rd-Class Year	2nd-Class Year	1st-Class Year
AstroEngr 310	Aero Engr 315	Academy Opt
BehSci 231	BehSci 310	Beh Sci 497
BehSci Course	BehSci 332	Beh Sci 498
BehSci Course	BehSci Course	BehSci Course
Chem 200	BehSci Course	BehSci Course
Econ 201	BehSci Course	English 411
English 211	BehSci Course	Mgt 400
EngrMech 220	BehSci Course	MSS 415
Law 220	Biology 315	S/T Energy Sys Opt
MSS 200	ECE 315	SocSci 412
Physics 215	History 300	
Pol Sci 211	Philos 310	

## BEHAVIORAL SCIENCES (BehSci)

Offered by the Department of Behavioral Sciences and Leadership (DFBL).

**BehSci 110. Introduction to Behavioral Sciences.** Provides an introduction to the scientific study of behavior and mental processes across diverse levels of analyses. Covers psychological principles that can be applied in and out of the military. Critical thinking, leadership and respect for human dignity is emphasized through the study of subjects such as perception, cognition, learning, memory, social interactions, mental health issues and the biological basis of behavior. In addition, students will be exposed to subjects closely related to psychology such as sociology, cultural anthropology, leadership and human factors engineering.

**BehSci 110S. Scholars Introduction to Behavioral Sciences.** This course is the Academy Scholars Program version of the BehSci 110 course. The course will focus on the philosophical and historical roots of the discipline, and will seek and examine connections between psychology and related disciplines (i.e., sociology, anthropology, law, political science). The course goals include, but are not limited to (1) acquainting cadets with the diverse disciplines within psychology as well as related behavioral science disciplines, their methods, and approaches used to study human behavior, and (2) encouraging cadets to think critically about the nature of human nature within a rigorous scientific framework that will equip them to apply their knowledge both in their college careers and throughout their lives. Materials required in this course will be a common textbook(s) with selected readings, laboratory simulations, and video case studies. There will also be supplementary materials that are commonly used in the non-scholars version of BehSci 110. The course will be conducted primarily as a seminar. This means cadets can expect to be active participants in class.

**BehSci 231. Basic Research Methods and Statistical Tools.** The first in a two-course sequence that includes BehSci 332. Introduces students to and they apply an integrated approach to empirical research, statistics, and ethics through study of the scientific method, hypothesis testing, and research design. Students study and compute

probability and descriptive statistics for normal and non-normal distributions on differing levels of measurement. Students use statistical software to perform descriptive and inferential statistical analyses including, but not limited to, measures of central tendency and variability, normality, ANOVA, t-tests, Chi-square, correlation, and the principles of regression; with emphasis on knowing when to use each method. Students apply methodological and statistical knowledge in a behavioral science research study they design; culminating in an APA formatted research report (e.g. papers and/or posters).

**BehSci 310. Foundations for Leadership and Character Development.** Explores leadership development through both academic study and applied exercises. Specifically, it examines individual leader development principles that will set students on a lifelong path to becoming leaders of character who treat others with respect and dignity. Combines the academic study of leadership development with experiential exercises, case studies and student projects designed to help students develop in their own leadership capacity.

**BehSci 310Z. Foundations for Leadership and Character Development.** This course combines the requirements of BehSci 310, CCLD 301, and CmsngEdu 300 in an integrated classroom and lab experience taught in the cadet squadron. Students will explore leadership development through academic study and applied work related to current squadron issues and leadership challenges. Specifically, the course examines individual leader development principles that will set students on a lifelong path of becoming a leader of character who treats others with respect and dignity. The academic study of leadership development will be combined with AFI 36-2014, CJCS 1800.01D, Officer Professional Military Education Policy requirements, CCLD personalized coaching training, and CW element leader training. Portions of the course will be conducted via hybrid methods (e.g., on-line learning, social media, lectures, etc.). The course will meet over the entire academic year with ~15 meetings and ~5 hybrid lessons in both the fall and spring semesters. Students should also expect 5 – 10 lab periods in addition to classroom meetings each semester. Students will complete both a personal leadership philosophy paper and a squadron group project.

**BehSci 330. Abnormal Psychology.** Examines the development, nature and treatment of psychological disorders within a biopsychosocial context. Special consideration is given toward leadership and military applications.

**BehSci 332. Advanced Research Methods and Statistical Tools.** Continuation of BehSci 231 (please see BehSci 231 course description).

**BehSci 335. Learning and Cognition.** How does experience affect behavior? This age old question has been examined both in theory and in practice by behavioral psychologists since the early 1900's. With the cognitive revolution in the late 1950s, a keen interest turned to experimentally studying mental activity. In this course, cadets will examine theories from both domains to better understand human behavior and mental activity. Cadets will test concepts from learning and cognition in the laboratory using rats and report their experimental findings.

**BehSci 352. Social Psychology.** Provides an introduction to social psychology and behavioral sciences. Social psychologists seek to understand the nature and causes of individual behavior in social situations. In other words, social psychology explains how the average person reacts to various social pressures. Topics covered include social perception, attitudes, prejudice and discrimination, interpersonal attraction, social influence, pro-social behavior, aggression, groups and personality. From a practical standpoint, this course explains how and why people react to the world and other people as they do. Leadership implications are discussed.

**BehSci 355. Brain and Behavior.** Using the interdisciplinary lens of neuroscience, cadets will learn how the brain and nervous system generate behavior and mental activity. Learning experiences will focus on how the wiring and structure of the brain are responsible for the way we behave. We will examine how real life issues such as traumatic brain injury, learning, memory, decision-making, sleep, emotions, psychological disorders, drug effects, and stress

are best explained by understanding how the brain processes and computes different kinds of information. Cadets will develop a three-dimensional understanding of neuroanatomy through extensive sheep brain dissections.

**BehSci 358. Sociology of Violence and War.** This course provides concepts, perspectives, and evidence for thinking about and making sense of violence and war from sociological and criminological perspectives. The course examines the forms violence and warfare take in human societies, such as incidences of assault, homicide, riots, and genocide. The course also emphasizes the contextual environment surrounding combat, the people involved in combat and the support of armed conflict, and the relationships between them. Finally, the course considers how individuals and societies respond to violence and warfare, with attention to policing systems and militaries, and how they are related to the cultures in which they are located. In addition, the course addresses terrorism and conflicts such as those in Afghanistan and Iraq. Exact topics covered may vary in any one semester.

**BehSci 360. Sociology.** Introduces sociology's foundational perspectives and methodologies and applies them to the systematic study of human behavior in social contexts. Basic topics include the "sociological imagination," biology and social behavior, the origins and components of culture, socialization, the structure of social interaction, and the creation and maintenance of groups, organizations and societies. Additional themes include social stratification, race/ethnicity, gender and sexuality, globalization and development, marriage and family, religion and social change.

**BehSci 362. Class, Race and Gender, and Sexuality.** Class, race, gender, and sexuality are axes of stratification, identity, and experience. They often are taken for granted or go unrecognized. In this course, we will address the multiple and intersecting ways these concepts shape society, individual life-chances, and daily social interactions. We will take a detailed look at each of the core concepts: class, race/ethnicity, gender, and sexuality. Studying the "socially-constructed" nature of these concepts, we ask what meaning and values have been attached to them by social actors and we inquire into the ways the social constructions help to rationalize and justify social inequality. We also analyze the significance of class, race, gender, and sexuality in a variety of institutional and interpersonal contexts, including elementary schools, communities, housing, the criminal justice system, the family, and higher education.

**BehSci 373. Introduction to Human Factors Engineering.** Examines the process, principles and guidelines of human factors engineering as they impact the design of systems used by people and provides an introduction to human factors engineering and systems design. Emphasizes interactions between human capabilities and limitations, to the task, and the environment, as they relate to system performance.

**BehSci 375. Human Factors in Aviation Systems Engineering.** Examines human performance and human-machine design issues in military and civilian aviation systems. Students learn about human factors engineering in aviation systems and their failures as well as reviewing the nature and scope of human factors impacts on performance by air and ground crews and their supervisors. Reviews the body of knowledge demonstrating how human flight-related performance is based on psychological and physiological capabilities and limitations that, in turn, influence humans' abilities to interact within the systems design constraints. Students also learn how the application of effective systems design, specialized automation and ongoing training can facilitate optimal human-system performance associated with flight.

**BehSci 380. Theories of Personality.** Examines major psychological theories of personality including analytic, humanistic, cognitive and learning approaches. Considers other non-traditional approaches which explain personality development from the socio-cultural perspective. Examines theoretical concepts to understand individual personality development, relevant current and historical issues, and application to military leadership.

**BehSci 390. Sensation and Perception.** Provides an introduction to the way the outside world is perceived through our senses and how our brain makes sense of all the sensory inputs. How our body experiences the world

and what we perceive of the world are two interrelated, but different entities. This is an important topic for Air Force officers, because our perceptions do not always accurately represent the outside world. For example, pilots with inaccurate perceptions of their aircraft attitude (e.g., spatial disorientation) could lead to loss of control of their aircraft. Through lectures, labs, demonstrations and discussions, this course introduces the basic anatomy of the sensory systems, as well as how these structures are used to “make sense” out of what we are experiencing so that we can do such things as understand speech, perceive color, see motion and depth, and recognize faces.

**BehSci 411. Leading Across the Full Range of Leadership.** This course takes an in depth look at the concept of transformational leadership through examination of the Full Range Model of Leadership. Cadets will examine both effective and ineffective leadership processes in order to understand how leadership manifests itself in different situations and the resultant effects on followers. Case studies/current events, facilitated and cadet-led round-table discussion projects, and experiential exercises will allow the cadet to gain an in-depth understanding of leadership and its application across a variety of situations and contexts.

**BehSci 412. Leading Team and Organizational Change.** In this course, cadets will examine the perspectives, processes and guidelines relevant to leading change at the team and organizational levels. Specifically, cadets will explore topics in industrial psychology from the perspective of a company grade officer to learn how to select, train, motivate, and assess their airmen to build an effective team. Cadets will also explore topics in organizational psychology from the perspective of a field grade officer to understand the complexity of modern organizations and learn how to effectively lead an organizational change effort. In-class exercises, guest speakers, and group projects will be used to help cadets comprehend course concepts in the context of life at USAFA, so they may understand how to apply this knowledge to leading in the Air Force.

**BehSci 440. Lifespan Development.** Examines how people develop physically, psychologically, socially and cognitively from birth to death. Explores changes that are universal and changes that are unique to specific individuals. Presents developmental theories explaining these changes. Focuses on the social context of development: “What is the impact of income, education, ethnicity, race, sex, culture and historical time period on developmental outcomes?”

**BehSci 471. Engineering Psychology.** Advanced course examining cognitive and human performance theories and their applications to human-machine integration in systems design. Special attention is given to the way humans perceive, understand and respond to information. Application of course content includes the development of an experimental setting to test an applied research question.

**BehSci 473. Human Factors Engineering in Systems Design.** This advanced course emphasizes the role and responsibilities of the human factors engineer in the design and evaluation of systems. Uses a combination of group, individual and in-class design projects to explore the system design process. Gives particular attention to human characteristics and their effects on system performance.

**BehSci 495. Special Topics.** Selected topics in the behavioral sciences.

**BehSci 497. Senior Capstone Seminar in the Behavioral Sciences.** An intensive seminar covering the application of the behavioral sciences to modern military conflict. The seminar will primarily focus on how current and historical behavioral sciences theory and research inform and prepare warfighters in the conduct of modern Air Force combat operations including pre- and post-deployment issues. In addition, students will be introduced to their senior capstone project, will form their project teams, and will begin their literature reviews and research protocol development in preparation for completing their capstone project in the spring in BehSci 498.

**BehSci 498. Senior Capstone Project in the Behavioral Sciences.** This course culminates the Behavioral Sciences

curriculum, integrating previous coursework to contribute knowledge to either an applied or research based capstone project. Under the guidance of capstone instructors and department faculty, students will complete a senior project. In addition, students will participate in periodic seminars and discussion groups on current topics in the behavioral sciences.

**BehSci 499. Independent Study.** Research or practicum in a specific area of behavioral science. Conducted on a tutorial basis.