ACADEMIC SUCCESS CENTER

AIR FORCE ACADEMY



Mission of the Academic Success Center (ASC)

QRC STEM

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& REFLECTIVE

RESPONSIVE

The ASC fosters cadet academic excellence through personalized and group instruction designed to advance study strategies, critical thinking, STEM problem solving, and clear communication. Our experienced educators not only teach core and advanced courses in their respective disciplines, but they also provide extra instruction between 1600-2030, a time when cadets are more likely to be available to receive assistance. As a result, ASC instructors are uniquely positioned to provide the best possible support to cadets seeking help in Calculus,

Chemistry, Mechanical Engineering, Physics, Learning Strategies, ESL

academics, graduate school opportunities, and communication enhancement (reading, writing, and public speaking).

Our faculty is like no other. First, ASC

educators are fully immersed in their respective subject

areas. They are experts in the arc of instruction, primary

sources, exercises, and major assessments embedded in their

disciplines' core courses. They work directly with department instructors and course directors to help shape students' classroom experiences. Second, they excel as welcoming, compassionate, and experienced extra instruction (EI) faculty, prepared to meet students wherever they are on the course-readiness spectrum.

As classroom instructors and extra instruction mentors, ASC faculty are optimally situated to collect valuable insights concerning student and course-wide strengths and weaknesses. Our instructors open constructive and engaging dialogues with cadets. Students share typical academic obstacles they have encountered, ranging from complicated concepts and theories to specific difficulties with systems of units and equations. Through these sessions, students learn to



BUILDS SELF-AWARENES . . . AND IT'S FUN

explore not only the topic at hand but also understand how similar approaches of inquiry can be used across any discipline:

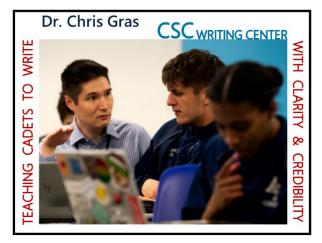
Conceptualize—visually depicting the problem.

Organize—representing and defining the problem in appropriate terms and symbols.

Examine—analyzing the problem using agile tools, theories, and critical thinking.

ASC's intent is to guide cadets to make this process a habit of mind for structured exploration of any challenge.

Importantly, these EI sessions serve as a barometer of cadets' attitudes, skill deficits, and key concept perceptions across an entire course. This in turn allows ASC instructors to not only provide students with guidance for a difficult concept, but also provide feedback to course



directors. ASC faculty are typically the first to see these trends. In response, they design and provide group-level targeted extra instruction for new core instructors and cadets to address these gaps in knowledge or skill sets. By design, each cadet/ASC faculty engagement is intended to cultivate creative habits of mind, analytical tools, and adaptive

practices to build students' self-awareness and self-reliance as life-long learners.

ASC instructors push the envelope across teaching pedagogy and classroom technology applications. The ASC team is actively involved in research, peer-reviewed publications, and presentations at the national and international levels. ASC instructors are active in wide range of organizations such as the National Conference for Undergraduate Women in Physics, International Society of Teaching and Learning, and other centers of excellence and innovation across education, industry, and the DoD.

From rising stars needing additional academic structure to academic superstars looking to compete for prestigious graduate school scholarships, cadets at all points along this spectrum

come to the ASC to thrive. Our faculty members coach and mentor cadets in how to explore complex technical and scientific issues from new perspectives; communicate with clarity and focus; and succeed in a demanding, high-stress environment that can overwhelm even "college-ready" students.

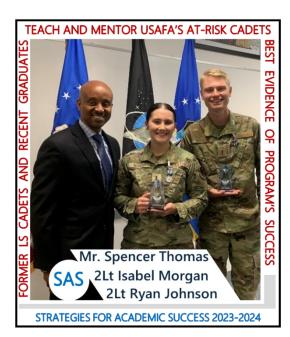


ASC's hallmark is teaching excellence. Our high percentage of USAFA "Outstanding Academy Educator" recipients speaks to this point. But more tellingly, the growing use of all ASC services by cadets reveals our influence on cadet learning practices and the value cadets place on our help.

For many cadets, our teachers are game changers, making retention and graduation a reality. How do they do it? ASC faculty and staff create an inviting environment—a place where cadets feel free to ask questions and share academic, social, or cultural vulnerabilities. We accept each student, often arriving unprepared for the rigors of college coursework, without judgement, shame, or criticism.

Origins—Lt Gen Stein's Vision

Initiated in response to Lt Gen Paul E. Stein's (USAFA Superintendent, 1994-1997) concerns over growing cadet attrition due to poor academic performance, the Student Academic Services (SAS) division was established under the Registrar to advance cadet/instructor academic engagement. Initial SAS services focused on helping cadets develop Strategies for Academic Success (Learning Strategies); read with purpose and efficiency (Reading Strategies RS103) course; and navigate a new culture with unfamiliar academic



genres (International/ESL support. This layered scaffolding of instructional capabilities has helped to increase essential support to USAFA's least prepared students enrolled in the Learning Strategies

(LS) cohorts. Cadets in the LS cohorts from 2022-2024 have a graduation rate of 71% (289 total graduates). On average 40% of these cadets were on the Dean's List in their final semester, and 12% were on the Commandant's List in their final semester. Out of the original 403 cadets placed in these cohorts, less than 1% were disenrolled for academic deficiency. Lt Gen Stein's vision has matured to provide cadets access to a powerful margin of excellence, giving all cadets the opportunity to thrive.

Growing Demand

In 2000, SAS added a Writing Center to expand its clear communication support. Cadet writing center appointments have increased over the years due in part to its ability to support USAFA's diverse writing assignments ranging from lab reports to graduate school applications. Starting in 2009, the SAS integrated STEM extra instruction through the addition of the Quantitative Reasoning Center, providing Calculus, Chemistry, Engineering Mechanics, and Physics extra instruction. Cadets were then able to visit the ASC as a "one-stop-shop" to get help with not only a Calculus problem set but also a Philosophy paper. This multi-disciplinary collection of expanded services was renamed the Academic Success Center (ASC) in 2015. In 2020, the ASC added a Public Speaking Lab (PSL) to teach cadets academic and professional presentation strategies. The PSL also helps cadets prepare for capstone presentations and graduate scholarship interviews. This type of growth is typical of dynamic, successful, high-impact organizations. ASC instructors seek out emergent pedagogies, technologies, and teaching capabilities to hone future officers into agile critical thinkers and excellent communicators prepared to solve complex, evolving problems for the Air Force and Space Force.

Challenges Ahead

The ASC needs to add Computer Science to its STEM support capabilities, including potential expansion into engineering fields not covered by our current ASC faculty. Additionally, declining scores on national reading and writing assessments highlight a heightened need for the ASC to sustain its clear communication support centers and courses to address this challenge.



ASC IMPACT 2023-2024



QUANTITATIVE REASONING CENTER (QRC)

- ✓ Exemplars in Calculus, Chemistry, Physics, and Mechanical Engineering.
- ✓ <u>Women lead in seven out of the nine QRC STEM faculty positions</u>: Dr. Andrusiv (Full Prof, Mechanical Engineering), Dr. Ayachitula (Physics/Chem), Dr. Louma (Math, '07 USAFA Grad), Dr. Hertz (Chem), Ms. Romich (Physics/Chem), Ms. Saito (Math), and Ms. Thompson (Math).
- ✓ QRC faculty supported 5,964 cadet appointments last year—30% increase over 2022-2023 AY.



COMMUNICATION STRATEGIES CENTER (CSC)

- ✓ Writing Center faculty <u>supported 1,528 individual cadet appointments</u>, a 25% <u>increase from '22-'23 AY</u>. Over 20 departments and programs were aided by one-on-one, small group, or in-class sessions.
- Communication Strategies <u>students</u> use the latest eye-tracking technology and <u>online programs to advance reading efficiency and engagement; this course has been modified to address writing and public speaking practices as well. This new course, replacing Reading Strategies 103, started in Fall 2024.</u>
- ✓ Public Speaking Lab (PSL) faculty completed 405 thirty-minute appointments, a 32% increase over last year, and 28 workshops.
- Cadet appointments centered around presentations for academic courses, military presentations in the cadet wing, and interview preparation for cadet leadership positions and graduate school opportunities.
- ✓ In addition, PSL faculty proudly witnessed 2Lt Madison Marsh (USAFA Grad 2023)

 earn the 2024 Miss America title. As a cadet, she used the PSL to prepare for pageantry and graduate school interviews.





STRATEGIES FOR ACADEMIC SUCCESS (SAS)

- ✓ SAS classes help to prepare at-risk students (approx. 140 cadets/year) for the rigors of academic engagement; the course also helps cadets (approx. 90/year) directed into the program by Academic Review Committees.
- ✓ Two former cadets from the Learning Strategies cohort (graduates) join the staff at the start of each AY to help train, motivate, and instruct the "at risk" students of each entering class.



ENGLISH AS A SECOND LANGUAGE (ESL)

✓ ESL specialist Asst Prof Leonard teaches English for Academic Purposes to four-year and semester-exchange cadets.

Additionally, she serves as the advisor for exchange cadets and instructs other courses designed specifically to support exchange cadets' academic integration, including ESL-tailored Communication Strategies 101Z.

Notes / Observations	Questions for ASC Team

