SENIOR SEMINAR ELECTIVES

Students seeking an academy distinction are required to take at least one of the senior seminar options below based upon their academy. However, the courses below are open to all seniors, regardless of their interest in the academy distinction.

SENIOR SEMINAR SERVICE PROJECT
ACS 9311.H000.X
AGS 9311.H400.X
Grade Placement: 12 Credit: 0.5

The service project class provides opportunities for AGS students to Take Action and ACS students to Live Ethically by working in groups to research and address an issue the group is passionate about. The course occurs in three phases over the course of a single semester. In the first phase, the group will seek to understand an issue of interest. The second phase requires the group to use their research to develop and present a plan of action. In the final phase, the group implements their plan, reflects on the process and the impact, and presents their learning to a group of community members.

SENIOR SEMINAR PASSION PROJECT
ADT 9311.H200.X
Grade Placement: 12 Credit: 0.5

The passion project class provides an opportunity for ADT students to practice being Self Directed Learners by working individually or with a group to design and implement a project of personal interest. Students will spend the first part of the course exploring their interests and creating a learning timeline they will use to guide their work over the course of the semester. At the end of the semester, students will present their work and learning to a group of community members.

SENIOR SEMINAR THESIS PROJECT
ACS 1016.H000.X
Grade Placement: 12 Credit: 0.5

The thesis course offers students in ACS the opportunity to develop the pillars of Writing Persuasively and Speaking Eloquently in the process of developing deeper knowledge, understanding, and perspective on a complex topic. This single semester course guides each student through an independent study process of identifying a meaningful topic, conducting advanced research and primary source interviews, crafting an in-depth research paper, and verbally defending arguments to a community panel. This culminating experience focuses on an individual’s ability to express complex ideas about truth, beauty, and goodness.

SENIOR SEMINAR INTERNSHIP
ALL ACADEMIES 9311.H100.X
Grade Placement: 12 Credit: 0.5-1.0

Students in any academy interested in learning alongside professionals in the community secure internship in a field of interest. Internships are distinct from jobs in that internships focus on learning objectives. Students are responsible for finding/securing their own internship, and will present reflections over their learning to a group of community members.

SCIENTIFIC RESEARCH AND DESIGN I
ASI and ADT 8761.H000.Y
Grade Placement: 12 Credit: 1.0 science
Prerequisites: Biology, Chemistry, Physics

Science, as defined by the National Academy of Sciences, is the “use of evidence to construct testable explanations and predictions of natural phenomena, as well as the knowledge generated through this process.” Physical, mathematical, and conceptual models describe this vast body of changing and increasing knowledge. Students should know that some questions are outside the realm of science because they deal with phenomena that are not scientifically testable. Texas law requires at least 40 percent lab and field investigations.
The following two courses can be used for senior seminar in ADT or ASI

**DUAL CREDIT SCIENTIFIC RESEARCH & DESIGN**

**UT ON RAMPS**

8724.N100.Y

Grade Placement: 11-12  
Credit: 1.0

Prerequisite: Two units of science and completion or concurrent enrollment in Alg. II

A Dual Enrollment Course offered in conjunction with Austin H.S. and the University of Texas On Ramps program. Integrated lab and classroom seminar to engage students in posing scientific questions, designing and conducting experiments to answer scientific questions in a safe and ethical manner, using cutting-edge techniques to collect data, using statistics to interpret experimental results, building and evaluating models and arguments related to scientific phenomena, and communicate about scientific work orally and in writing. Curriculum is developed in weeklong segments during which teachers will divide up lab and classroom time according to the specific schedule at the school. Laboratory time should comprise no less than 50% of each week’s student contact hours. All University graded assignments must be submitted through Canvas for evaluation.

**ENGINEERING DESIGN & PROBLEM-SOLVING**

8772.HT0C.Y  
Credit: 1.0

Grade: 11-12

Prerequisites: Intro to Engineering Design and Principles of Engineering, plus one additional PLTW course

In this course, students will work in teams of two to four to design and construct the solution to an engineering problem, applying the principles developed in the preceding four courses. The problem may be selected from a database of engineering problems, be a recognized national challenge or be an original engineering problem identified by the team and approved by the teacher. The problems will involve a wide range of engineering applications (e.g. a school robo-mascot, automated solar water heater, remote control hovercraft). Students will maintain a journal as part of a portfolio that will be invaluable as the students apply to college.