Singapore American School Advanced Studies White Paper

Introduction

Singapore American School's vision and strategic anchors form the foundation for all programs, including the high school Advanced Studies program. We strive to be a leader in this area by being reflective, data-informed practitioners, and by cultivating students who are critical and creative thinkers, collaborators, and communicators, ultimately preparing them for their future. We do this by focusing on the intersection of excellence, possibilities, and extraordinary care.

We celebrate and embrace the diversity of our student body and believe we play a pivotal role in ensuring that all students are valued, welcomed, and treated with dignity and respect. We keep the interests of our students at the center of every decision we make. We serve a broad range of culturally-diverse students with unique learning profiles and needs, ranging from those who need enrichment opportunities to those who need additional learning support.

All of the above leads the SAS high school to focus on appropriately personalizing our programming, resulting in each student being an exceptional thinker prepared for their immediate future and beyond. The full implementation of the Advanced Studies program at SAS is a culmination of seven years of research, preparation, and implementation. Our work spanned the globe and included SAS faculty, parents, students, administrators, college admissions representatives, college professors, researchers, and thought leaders from a myriad of fields and occupations. We have a purpose-built system to recognize the needs of 1,200 students, ensure high levels of learning, and advantage them in their admissions to over 3,000 colleges around the world.

As of the 2018-19 school year, the Advanced Studies program at SAS consists of over 40 Advanced Placement and Advanced Topic courses. These courses – their depth, their variety, the skills they teach – give our students an unprecedented range of educational opportunities and are opening up new pathways to colleges in an increasingly competitive market.

What is Advanced Studies?

Advanced Studies at SAS have been developed and adopted to provide relevant college level learning options for our students in order to ensure high levels of engagement, greater focus on 21st Century competencies, and better prepare students for their future aspirations. The Advanced Studies program is made up of both Advanced Topic (AT) and Advanced Placement (AP) courses. Advanced Studies address multiple desired student learning results, including communication, collaboration, critical thinking, and creativity, in addition to focusing on content knowledge. These rigorous courses require the application of content and skills by emphasising in-depth research instead of covering a wide breadth of topics. At the end of each Advanced Topics course, students are expected to produce culminating projects that connect directly to the real world. At the end of each Advanced Placement course, students are expected to sit for

a culminating Advanced Placement exam. All courses have relevant college preparatory prerequisites and have been developed in collaboration with university professors from respective disciplines or the College Board. To encourage students to undertake more relevant and challenging studies in high school, Singapore American school assigns extra weight (0.5 per year equivalent) to grades received in Advanced Topic Courses.

Why Advanced Studies?

The vision of Singapore American School is to develop world leaders, cultivate exceptional thinkers, and prepare students for their future. To achieve this vision, it is incumbent for all members of the SAS community to be active and engaged learners. SAS defines learning as a developmental, life-long process that transforms the learner by expanding and deepening knowledge, skills, and understanding in support of personal success in life, work, and contributions to others.

What we know about learning continues to evolve. The prevalent view in the literature is captured by researchers Michael Fullan and Maria Langworthy (2014) who describe the goal of education as to not only master content knowledge but to master the learning process. This view is supported by Dr. Tony Wagner in the documentary film, *The Most Likely To Succeed.* Dr. Wagner, a Harvard School of Education professor who has visited Singapore American School personally, shared that in today's world knowledge is much less valuable than it used to be. He suggests that

> *"there is no longer a competitive advantage in knowing more than the person next to you because knowledge has become a commodity available to all with the swipe of a finger. Now, adults need to be able to ask great questions, critically analyze information, form independent opinions, collaborate, and communicate effectively. These are the skills essential for both career and citizenship."*

We know that learning is driven by curiosity and that when learning is constructed by the learner, it becomes more meaningful. We know that learning is a process of change in a learner's knowledge, beliefs, behaviors, attitudes, and decision making; and can happen in academic, social, emotional, and physical contexts, anytime, anywhere, and with anyone. We know that learning involves an understanding of the big ideas and concepts that connect prior knowledge, skills, and experiences and is maximized when it is applied, transferred, and adapted to new situations and problems by the learner. Finally, we know learning is connected to emotions and is constructed socially (Ambrose, et al., 2010; Bandura and Schunk, 1981; Ben-Eliyah, Rhodes, and Scales, 2014; Brandt; Bransford, Brown and Cocking; Dembo and Seli, 2006; Hattie, 2012; Loyens, Magda, and Rikers, 2008; Marzano, 2003; Marzano, 2007, McTighe and Wiggins; Merrill, 2009; Perkins, 2014; Perkins; Pink; Skelton; Wagner, 2014; Zimmerman, 2002)

Future Wise by Harvard Professor David Perkins (2014) wrestles with the long-argued question of what is worth knowing to produce future ready graduates. Perkins suggests that schools

should ask one simple question to determine what is worth knowing: *Is what the student is learning likely to matter in the lives the learners are likely to live?* The question is intentionally broad and contextual as to not limit possible outcomes. For learning to be meaningful it must be relevant and useful for the learner in their lives.

Perkins also notes that what is taught in traditional schools may not be what's best to prepare students to be the ideal citizen, worker, or community member in the future. Perkins argues that schools must get beyond the traditional framework of schooling to better prepare students for the future. He identifies what he refers to as the "six beyonds" that support schools in producing future ready learners: beyond basic skills, beyond traditional disciplines, beyond concrete disciplines, beyond regional perspectives, beyond mastering content, and beyond prescribed content. Perkins' six beyonds are one example of what is clear in a growing body of research: Education must change at its core if we are to produce students that are future ready.

Like all of our programming, decisions regarding Advanced Studies is driven by the above research. Our Advanced Studies approach ensures that students have course options that include relevant, authentic, and worthy tasks for which the learner understands the purpose and is able to make connections; contain learning that is personally meaningful, challenging and appropriate; makes meaningful and appropriate connections across disciplines; support interdisciplinary thinking and learning; and provides a developmentally appropriate balance of teacher-directed and student-directed approaches.

Where did the idea of Advanced Studies at SAS come from?

At the request of the board and superintendent, in November 2012 the high school began a process that examined research into effective educational practices, looked at programming in model high schools from around the world, and explored perceptions of students, faculty, and community members. This information was used to identify how SAS should evolve to better meet the needs of our students. From this research, eight themes evolved from this process: focus on desired student learning outcomes (DSLOs), develop an unapologetic school culture, establish means to deepen relationships and provide personalized learning, make connections locally and globally, utilize relevant teaching and learning practices, and redesign spaces and use technology to support our strategic direction. To address these themes, the high school team made robust and courageous recommendations that were presented to the superintendent and cabinet and approved in early 2014. The board endorsed the recommendations at their retreat in May 2014, commiting support to the plan moving forward. The recommendations included:

- Guaranteeing that all students will have a foundation of core knowledge and skills; giving all students time and opportunity for exploration, pursuit and demonstration of their passions; certifying that all learning will be credited in new, flexible ways.
- Having teachers collaborate to identify relevant core foundational knowledge and key transferable skills, and re-prioritize the existing curriculum so the skills outlined in the DSLOs would be explicitly taught, assessed, recorded, and reported.

- Defining “academic rigor” as expecting high levels of analysis, synthesis, judgment, evaluation, exploration and creation. This meant moving away from equating academic rigor by the quantity of information recalled or amount of time spent on homework.
- In addition to maintaining courses that provide core knowledge and skills, designing courses that allow for deep intellectual inquiry. This included a new course numbering system that categorizes offerings to reflect the level of academic rigor, including the designation of Advanced Placement and Advanced Topic courses.
- Providing a GPA adjustment to grades earned in certain high school courses. Courses receive a GPA adjustment that recognizes the highest academic rigor.
- Developing and implementing a system, including a team of teachers, counselors, and administrators, for designating courses designated as Advanced Topic (AT). This development should include a consistent set of criteria and require partnerships with colleges, universities or other professional bodies to assist the team in vetting and endorsing these courses.
- Developing and offering a minimum number of five AT courses, representing all disciplines in 2016-17, and that a minimum of 10 courses are offered by 2018-19. To achieve this, teacher teams should be given the time and resources to develop these courses.
- In order to make space in the program for Advanced Topic courses, limiting students to seven AP credits during their SAS career, beginning with the class of 2019. SAS will pilot the AP Diploma beginning in 2014-15 which can be accomplished with six (6) AP courses. (The AP credit cap was later delayed to ensure that AT courses were fully ready and vetted before implementation)

It is important to note that there were four parameters established in 2014 to guide decision-making regarding any programmatic changes. These included:

- Avoids compromising students’ admissibility to college;
- Includes avenues to measure progress over time;
- Meets the desired student learning outcomes (collaboration, communication, critical thinking, creativity, cultural competence, character, and content knowledge); and
- Will be accepted by the market (as reflected in SAS enrollment).

How was the process to develop Advanced Studies created?

Once the above recommendations were endorsed by the board and approved by the superintendent, a development team consisting of high school faculty and administrators was formed during the 2015-16 school year to determine how each recommendation should be implemented. This included devising a process for the creation of AT courses.

The development team determined that a hybrid advanced studies program that includes both AT and AP course offerings was the best way forward. AP courses that met established criteria (see below) would continue to be offered while a strong set of AT courses that provide relevant college-level options would be developed. The development team identified several positive

outcomes of an Advanced Studies program that included a blend of AT and AP courses. This included: more students impacted; a greater focus on DSLO skills development; courses that reflect student interest and need while extending beyond the capabilities of a standardized culminating exam; courses that better meets the needs of future student pathways; more relevant curriculum and competency based learning; depth over breadth; minimizing content-based rigor driven by external exams; and providing more opportunities for interdisciplinary and design thinking. Identified potential obstacles to Advanced Topics included: AT courses were untested at SAS; limited broad recognition by colleges and universities; AT courses would take more time and resources to develop; AT courses may need specialized teacher knowledge and skills; and AT courses would need to be closely monitored for rigor.

What are Advanced Placement courses?

Advanced Placement (AP) is a program administered by the College Board which offers vetted and approved college-level curricula and examinations to high school students. American colleges and universities may grant placement and course credit to students who obtain a three or higher on the exam. The AP curriculum for each of the various subjects is created for the College Board by a panel of experts and college-level educators in that field of study. For a high school course to have the designation, the course must be audited by the College Board to ensure that it satisfies the AP curriculum. If the course is approved, the school may use the AP designation. In 2018-19, SAS is offering 25 AP courses.

Advanced placement was initially started by three prep schools (Andover, Exeter, Lawrenceville) in collaboration with three universities (Harvard, Princeton, Yale) and was launched in 1955. Since that time it has now expanded to serve nearly 20,000 high schools and over 4000 colleges with students taking over 4 million exams across 34 subjects. Over 30% of all HS students take advanced placement.

How are SAS Advanced Placement courses vetted for continued implementation or discontinuation?

At the close of our research and development process, the high school administration required each department to review their college level course offerings, including AP courses, for alignment to our new strategic direction and alignment to the DSLO's. Departments were asked to consider AT course options in areas where gaps existed and to review the AP offerings that did not align to our vision or were weak courses. Courses that lacked alignment were considered for possible replacement by AT courses. Also considered were AT courses where no AP content existed. AP courses that were under subscribed, valued breadth over depth of learning or that deviated significantly from our DSLOs were considered for removal. Final decisions for course additions or subtractions were made by departments in conjunction with high school administration.

What are Advanced Topic courses?

Advanced Topic courses give SAS students learning opportunities that are relevant, align to the desired student learning outcomes (DSLOs), and are recognized by colleges as a part of a rigorous and challenging course of study so they can successfully apply to best fit colleges, including the world's most selective schools. Advanced Topic courses at SAS can be organized in three ways:

1. Some of our ATs are fully-aligned to the AP curriculum *and* also include additional skills and coursework that go beyond what AP expects. These courses include AT Seminar, AT Research and Catalyst, and AT Environmental Science and Field Research. Students may submit their products from these courses to receive an AP exam score.
2. Some of our ATs are somewhat aligned to the AP curriculum. If a student may still be successful on a related AP exam with limited self-study, we will offer that AP exam to the students in the related AT course. The courses are not designed with the AP exam in mind. These courses include AT Computational Physics and AT Literature (the latter is still in development).
3. Many of our ATs are new and different. They fill a void for college-level offerings in some of our departments. These include courses such as AT Kinesiology, AT Writing Workshop and Publication, AT Urban Studies, AT Performing Arts, AT Chinese: History, and AT Computer Science: Data Structures.

How are Advanced Topic courses developed and vetted?

High School course development and vetting is a critical component of our work to ensure that courses are of high quality and appropriate rigor from the first time they are taught. Therefore, emphasis is placed on rigorous course development and vetting. SAS uses a development process that goes beyond College Board's design structure, including feedback from students, teachers, and counselors, data analysis of historical student course selection, benchmarking exemplar programs within universities, and ongoing development, support, and validation from university partners. The process uses a design thinking approach that is based on the Ford Foundation model and incorporates input from benchmark Advanced Topic program developers (e.g., Scarsdale, Thomas Jefferson, ASIJ, Westtown School), the IDEO Education Lab, and College Board Professionals. Adopting this process has allowed for the high school vetting team and AT course designers to consistently monitor progress based on the AT development and vetting criteria, modifying the design process and course design as needed.

The development of curricula for every new AT course is conducted by a team of educators. Curriculum development is led by SAS teachers with the direct support and guidance of high school administrators, office of learning administrators, the center of innovation coordinator, and university strategic partners. A minimum of one full calendar year is allotted to the development of curricula for new AT courses. Teachers leading development work are given release time to conduct research, collaborate with external strategic partners, write standards and assessments, and engage in our rigorous vetting process. Teachers developing curricula for AT courses also make significant time investments outside of the work week to assure the quality of courses.

The goal of curriculum development is to produce courses that meet all of our vetting criteria and also satisfy the demands of our external strategic partners. AT course development begins with guided discovery. During this stage, department input is gathered, potential exemplars are explored, and professional networks are accessed including professional associations in the content area. Clear criteria for guided development is provided and initial approval by the vetting committee is needed to move forward. The second stage is guided development. During this stage, developers explore/realise ideas, develop/post curriculum, and short list units. They also conduct field research and gather student data and input to ensure the new course will meet student needs and fill gaps. The third stage is evolving and synthesizing the initial proposal. During this stage, developers collaborate with networked mentor strategic experts/partners; synthesize curriculum, research units (guided by student data); share a prototype with department, faculty, and classrooms where possible, develop and present a white paper proposal to the vetting committee. If approval is given final course development (stage four) is conducted. During this stage, developers identify staffing, budget, and facility implications, work with the office of learning to finalize learning objectives, and seek final approval from the vetting committee and high school principal. If approval is given, the final two stages are integrating the new course into the SAS program planning guide (stage five) and instructional design and deployment (stage six).

It is important to note that as development proceeds, components of a new AT course are frequently piloted in the context of existing courses. For example, in AT Literature (under development) two of the core skills students will acquire are the ability to deeply read multiple texts and the ability to creatively integrate their understandings of those texts through the development of a new text. There are specific instructional strategies that lead to this kind of deep reading, creativity, and integrated understanding. These strategies, brought to us by the Center for the Professional Education of Teachers at Columbia University, are ones we have piloted in existing English and social studies courses. This has allowed us both to hone the future implementation of the AT course and to ensure that our investment in AT course development positively influences the learning experiences of students throughout the high school.

A vetting team oversees the development of AT courses and provides quality control. The vetting committee is comprised of the high school principal, Center of Innovation Coordinator, high school deputy principal of academic affairs, a college counselling representative, an office of learning representative, and strategic partners. Vetting criteria includes: 1) external validation; 2) relevancy of content, skills, and application; 3) competency-based rigor; 4) desired student learning outcome development; 5) depth over breadth; 6) focus on production; and 7) real world application.

As part of the vetting process, AT courses are externally validated, through a strategic partnership or with a university partner such as Syracuse University Project Advance. To ensure AT courses are truly college-level and are of exceptional quality, we have implemented an audit

process that goes beyond what most other schools with similar programs currently have in place. Our audit process includes:

- obtaining feedback annually from students who are enrolled in AT courses,
- obtaining feedback from college representatives who visit the school,
- requiring that all new AT courses undergo extensive vetting by strategic partners, college admissions officers, college counselors, and SAS administrators before they are offered,
- reviewing course syllabi and major assessments on an annual basis to ensure fidelity to our AT criteria, and
- involving university/industry strategic partners in assessing rigor through the evaluation of the quality of SAS student work.

The manner in which we test and vet our AT courses is more rigorous than the manner in which we have historically tested and vetted other courses at the high school. We are committed to ensuring that we offer the level of rigor that our reputation demands in the college admissions process. We are the only school we know of that has gone so far as to insist on university partners during the development stage, university admissions representatives as part of our vetting team, and a yearly audit of our courses with our university partners (using our students' actual assessments) to ensure that our students are completing college-level work.

Who does SAS partner with for Advanced Topic courses?

Course Title	Collaborative Partner
AT English: Writing Seminar	Yale-NUS College
AT Entrepreneurship	Haas School of Business at UC Berkeley & Stanford University Entrepreneurial Program
AT Urban Studies	Institute of Urban and Regional Planning, Mumbai, India
AT Post-Euclidean Geometry	Grand View University
AT Finite Math Modeling	Grand View University
AT Env Sci & Field Research	Yale-NUS College
AT Computational Physics	Syracuse University
AT Comp Sci: Data Structures	University of Texas at Austin

Course Title	Collaborative Partner
AT Seminar	Rigor vetted through College Board
AT Research & Catalyst	Rigor vetted through College Board

AT Chinese Language: History	East China Normal University, Shanghai, China
AT Kinesiology	University of South Carolina
AT Performing Arts: Theatre	National Critics Institute, Eugene O'Neill Theatre Centre and Texas Tech University
AT Performing Arts: Music	University of California Los Angeles
AT Performing Arts: Dance	California State University at Long Beach and University of Oregon
AT Multivariable	Johns Hopkins University
AT Linear Algebra	Johns Hopkins University
AT Economics; Globalization	Syracuse University
AT Research & Composition (Quest)	Rigor vetted through College Board
AT Data Analytics (Quest)	National University Singapore
AT Design Thinking (Quest)	To Be Determined

Why is the Advanced Placement cap important?

The decision to place a cap on the number of AP courses was announced in 2014 as a part of the board endorsed recommendations. The cap was first recommended by college admission officers interviewed between 2012-2014, and was discussed at length amongst the faculty development team and broader faculty. This decision has been affirmed with colleges over the past four years.

Beginning with the graduating class of 2021 (changed from the original plan for the class of 2019), SAS students are able to earn up to seven year-long-equivalent AP credits during their high school career. Our AP credit limit ensures several things:

1. **Skill development.** The AP cap promotes (through limits) student participation in AT courses that focus on vital, future-ready skills. These skills are found in our desired student learning outcomes (DSLOs) required in AT courses: collaboration, character, critical thinking, content knowledge, cultural competence, creativity and communication.
2. **College competitiveness.** Universally college admissions officers evaluate the strength of a student within their own school context. Without a cap, some schools will stack rank AP course acquisition, potentially devaluing AT courses. When capped, students eliminate this risk as each school understands the limit as a part of the school profile.

3. **Differentiation opportunities**. Colleges are increasingly looking for students who can differentiate themselves. AT courses, as a function of their design requirements, result in more projects and products with college level rigor giving students the opportunity to differentiate themselves in the college application process.
4. **School carrying capacity.** High school courses are staffed according to enrollment demand alongside the requirements of colleges and universities. If AP demand outpaces AT demand by too large of a margin, those courses cannot be run without significant increases in tuition and more faculty. This also ensures that classes are of adequate size to optimize learning for students.
5. **Ending the AP acquisition competition.** Many students believe that they must acquire as many AP courses as possible or they will not be competitive in college admissions. This is a pervasive element of the SAS culture that is leading to troubling behaviour around the AP curriculum. Our research and discussions with college representatives have found that there are diminishing returns for students in the holistic admissions process when they become hyper focused solely on AP acquisition. While the cap does not address student stress (AT courses are equally rigorous), it does direct that ambition to courses that will serve their long term needs and interests.

So why does SAS limit AP courses and not AT courses?

The Advanced Studies program was designed as a system, not just a collection of courses. As the AP courses are determined by the college board, the school has no control over the course titles, design, or content. AT courses, on the other hand, have been designed specifically against our DSLOs and with the entirety of the system in mind. For a student that hits the cap of seven AP courses, there are ample AT courses that will meet most any interest pathway. If a student hits seven AT courses, on the other hand, the AP curriculum does not offer course alternatives that will give students ample opportunities. This is especially true in the Humanities.

Secondly, SAS already has a very competitive student culture. By creating a cap of 7 on both AT and AP, you are inadvertantly creating a total cap of 14 which then becomes a target for some students. This may result in negative consequences for the student culture at SAS that is already struggling with student stress.

Why have some AP courses been removed and replaced?

SAS is committed to providing opportunities for students that specifically align with our vision and DSLOs. Our research indicates that an advanced studies program that includes ***both*** AT and AP course offerings is the best way to accomplish our vision for our school ***in our context***. SAS is not dismantling our AP program like other high-performing schools such as Trinity, several private schools in Washington, DC, and others, but rather we are taking the best of the AP and enhancing our programming.

Over the past several years, the HS team has been charged with looking at ALL courses to determine their viability in meeting our DLSO requirements, the requirements of colleges, and

viability of implementation. This viability includes development resources, staffing requirements, equipment/support, enrollment trends, student pathways, and student interest. All courses have been reviewed by administration and faculty.

Phased out AP courses were found to be highly focused on breadth over depth and memorization over application and inquiry. These courses do not meet our requirements of quality, rigor, or transferable skills. Some AP courses have been recently reconstructed by the college board and were retained, whereas they were originally destined for elimination. Those courses that have been eliminated can better serve students with an AT alternative that relies upon the expertise of our faculty and university partners. Our AT courses ensure that students have mastery of the content *and* have developed the skills of application that increasingly colleges and employers require.

The number and type of courses the HS runs is constrained by not only our DSLO requirements but also by staffing and enrollment. Our target class size at the high school is 22 students, a number that is used for staffing and budgeting across SAS. We informally categorize courses within a department into three broad categories: (1) support courses, (2) college-preparatory courses, (3) college-level courses. Advanced studies courses comprise our college-level course offerings.

As we add more courses to a department, if those additions are not balanced with the elimination of other courses, it becomes highly likely that courses will be under-enrolled. As we consider course elimination, it is most equitable to eliminate existing advanced courses in order to offer new advanced courses. The alternative would be to withdraw resources that are currently being used to ensure a quality experience in our lower level courses.

As stated above, the goal of the Advanced Studies program at SAS is to provide a wide range of courses ensures that students have options that include relevant, authentic, and worthy tasks for which the learner understands the purpose and is able to make connections; contain learning that is personally meaningful, challenging and appropriate; makes meaningful and appropriate connections across disciplines supporting interdisciplinary thinking and learning; and provides a developmentally appropriate balance of teacher-directed and student-directed approaches.

How do US universities treat Advanced Studies courses?

Colleges are looking for students who are smart, hard working, diverse, and interesting. Smart alone is no longer enough. While each college is different, as a rule US colleges read their applications holistically which means that they are looking for students who bring a wide range of offerings to the table. Colleges are looking at a student's achievements within the context of their home educational environment, and are clear about this nuance. GPA and test scores are still important, but they also want to see students who are compelling applicants beyond GPA and exams. They want to see vivid essays and recommendations filled with interesting

anecdotes. They want to see research experience and service and music and sports and robotics and diversity and demonstrated interest. And they really want to see course rigor. Students who take a combination of APs and ATs look more interesting than students who take APs alone.

College admission representatives look for students who take the most appropriately rigorous path and who have clearly demonstrated their ability to complete college-level coursework. Representatives from hundreds of colleges have told us that they evaluate the rigor of each student's application within the context of the courses that are offered at their high school. Every college we have spoken to (likely over 150 at this point) has indicated that our AT courses are credible as college level courses, and will be recognized as such, consistent with how they deal with college level courses from other high schools. AT-type courses have become common in high-performing schools in the United States, so our transition to an Advanced Studies program is not new to colleges.

When it comes to the GPA and how it is calculated, each US college will regard AT courses according to its own internal policies. AT courses are typically given the same letter grade weighting as AP courses at SAS, with a few exceptions. Many US colleges will not recalculate the SAS GPA that we send them, so at those schools, there will be be no distinction between AT and AP classes. Universities that recalculate GPAs will decide what weight to give AT classes, which is why we take care to explain in multiple places in a student's application that AT courses should be given equal weight to AP courses.

It is impossible to produce an exhaustive list of schools that will or will not recalculate GPAs as most do not report the highly specific ways in which they manage their calculations. There are over 2500 4-year universities in the US. Our sampling, however, indicates that in every instance, students with ATs and APs are not disadvantaged vs. those with only APs, even if there is a GPA calculation difference.

Some US colleges that recalculate GPAs are likely to give AT courses a GPA bump, because we have told colleges that we award similar weight to AT and AP courses. If a college does not give the bump, it is worth noting that taking ATs is likely to have a minimal impact on an individual student's overall GPA. For example, if a student takes 7 AP courses with an A in every class, they would have a 4.13 GPA. If two of those AP classes are replaced with AT courses, at a college that recalculates GPAs and does not count ATs, the GPA would become a 4.10.

For placement or credit at a university, some universities and colleges may award college credit for AP exams on which a student scores a three, four, or five. There is no uniform practice for this. Instead of course credit, some colleges may choose to give a student advanced standing in a subject, though this practice is also not universal. Universities do not typically have a similar mechanism for awarding credit for AT classes, but several AT courses we offer will allow

students to sit the AP exam or to earn college credit at Syracuse University. When transferable college credit is offered, this often carries more weight than an AP score.

Policies and practices vary widely from college to college -- and sometimes even from department to department -- so students are encouraged to research individual college websites to ascertain whether they will receive credit or advanced standing for a given AP exam score or Syracuse University college credit. It is worth noting that a college's choice of whether or not to award credit for work done in high school, AP or otherwise, has no bearing on the college admission process.

While we firmly believe the net benefit of our Advanced Studies program presents our students with enormous advantages, we acknowledge that SAS cannot guarantee how it will be perceived in every college admissions decision. This is equally true of a pure AP program, or other programs that schools around the world have in place. Schools in the US read applications holistically and change their criteria annually, and as such we can never know or forecast the impact of one element on any given student's overall application regardless of the course offerings at SAS.

With this as the case, we have strong evidence that the advanced studies program at SAS provides the best opportunity for competitive standing with university admissions for our students while ensuring that our students have the skills to not only be admitted to college, but to persist through college and into the workplace. The SAS reputation combined with our advanced studies programming provides significant advantages for our students.

How are other schools addressing advanced studies?

Most high schools offer some form of advanced studies. The most common approaches are Advanced Placement courses, the International Baccalaureate (IB), Cambridge IGCSE, Advanced Topic courses, honors courses, or a hybrid model that combines some of the above.

Recently, the College Board introduced the Advanced Placement Diploma which is similar to the IB Diploma program, which SAS offers. To receive the AP Capstone Diploma, students must receive a three or higher on the AP Seminar exam, AP Research exam, and four additional AP exams. At SAS, successfully completing both the AT Seminar and AT Research & Catalyst courses will prepare students for the AP Seminar and AP Research exams respectively. Students can choose their four additional AP exams by enrolling in AP courses or in those AT courses where sitting a related AP exam is an option (e.g., AT Computational Physics and AT Environmental Science & Field Research).

While the Advanced Placement program originated in private schools in the US, over the past three decades public schools have broadly adopted AP making these courses less unique to private schools, and therefore less competitive. Many high schools only offer AP courses.

Increasingly we are finding many private schools abandoning the AP as it has lost its distinction

amongst schools, and the curriculum has little flexibility for faculty to drive content and learning outcomes that are more appropriate for today's student. Faculty find the curriculum too constrained, the content less applicable/relevant, and changes are extremely slow. Over the next decade, we anticipate that this will be an ongoing trend in private schools.

As we considered our model, several schools were researched and helped shape our Advanced Topic criteria, development process, and audit with strategic partners. These schools include:

- Scarsdale High School (p 6) - Eliminated Advanced Placement Courses; offers Advanced Topic Courses with some of the level "5" courses offering opportunities to take the respective AP Exam.
- Westtown Academy - Eliminated Advanced Placement Courses; "After extensive research involving colleges and peer schools, Westtown decided to stop using the AP designation. We determined that in a few subjects (math, physics, chemistry) the AP curriculum is still good preparation for college study. In other areas, however, it is limited and doesn't allow time for problem-based learning that is at the heart of 21st Century learning. Every department offers advanced courses that provide students the ability to reach greater depth of study."
- Phillips Academy Andover (p 6) - Eliminated Advanced Placement Courses; replacing them with "500" level courses that sometimes prepare students for an AP Exam and "600" level courses that are equivalent to year two college courses.
- Thomas Jefferson High School - Thomas Jefferson offers and Advanced Research courses and labs that compliment their Advanced Placement courses.
- Princeton High School - Followed a similar path as SAS over the past three years; slightly reducing their AP Program while expanding complimentary Accelerated and Advanced courses that are weighted.

Many other private schools have eliminated AP, or are considering elimination/reduction in the short term. Recently the following DC area schools announced that they will eliminate AP courses by 2020 found in this Joint Announcement and further explained in this Washington Post article and in this Inside Higher Ed article:

- Georgetown Day
- Holton-Arms
- Landon, Maret
- National Cathedral
- Potomac
- St. Albans
- Sidwell Friends

Other schools that are removing the AP include the University of Chicago Laboratory School, San Francisco University High School, Scarsdale, Sidwell Friends, Nueva School, and Crossroads School for Arts and Sciences, to name a few.

Scarsdale, while a public school, is similar to SAS in terms of demographics and has strong longitudinal data to draw from (10 years). They have found that their admission rates to selective schools have held steady or increased in the time since they introduced the advanced topics curriculum.

In addition, we reference the ongoing work of the Independent Curriculum Group (ICG), a consortium of public and independent secondary schools committed to the development of “high quality, mission-based, teacher-created curriculum and assessments” that features reputable and comparable private and public schools.

How are we monitoring implementation?

In order to assure our parents as well as colleges of course quality and rigor, it is imperative that SAS has in place a process to assess quality and student outcomes. A comprehensive audit process was done in 2017-18 and will continue as the remainder of the AT courses come online. All changes to the AP programming and AT courses in the pipeline have been announced to the SAS HS community. All course development is on schedule as planned.

Before an AT course is approved for implementation it follows a tight approval process and before implementation, quality is monitored to ensure alignment. The following report summarizes the Audit findings in 2018. The enclosed chart indicates the elements that are being evaluated and monitored.

AT ELEMENT	PROGRAM SUPPORT AND EVALUATION
Satisfaction	● Feedback obtained annually from students who are enrolled in AT courses.
Brand Recognition	● Feedback from college representatives who visit the school.

Quality	● All new AT courses undergo extensive vetting and receive feedback from college partners, college admissions officers, college counselors and administration before they are offered. ● Internal auditing process to assess fidelity. Course syllabi and major assessments are reviewed annually. ● External auditing process to assess rigor. College and industry strategic partners evaluate the quality of student work to assure rigor.
College Competitiveness	● Looking for course rigor. ● Looking for ways to make our transcripts stand out. ● Looking for influence of AT courses on crucial qualitative elements of students' applications: essays, recommendations. *Note: Rationale for admissions decisions are never shared by universities. Establishing causality between any individual academic program and admissions outcomes is therefore not possible.*
Readiness for 21st Century	● 2017-18 is second year of implementation. Planning to begin surveying alumni who have participated in the AT program to obtain perception data on effect of AT participation on readiness.

How have we responded to feedback and implementation concerns?

Over the course of the past 4+ years administrators, faculty, parents, and board members have brought forward questions, concerns, and suggestions regarding the advanced studies program. This is a complicated an nuanced system and each time questions arise, it provides us the opportunity to improve. Over time there have been multiple adjustments that will ultimately benefit our students. These adjustments included a delay of the AP cap for two years, delaying the replacement of AP Physics 1, and the addition of the catalyst component to AT Seminar and AT Research Catalyst so students taking this course were not required to also participate in the semester long Catalyst course. Feedback also resulted in the creation of additional semester options for Calculus, an AT version of Linear Algebra, and the transition of Economics: Globalization to an AT version of the course. Feedback from parents and faculty has been heard and appreciated throughout this process and our program is stronger today because of

the valuable input from our constituencies. As we continue to implement in the years to come, we are confident that feedback, evaluation, and quality measures will continue to shape adjustments in our advanced studies programming.

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