

NUS HIGH SCHOOL

Up there with the world's best

No secret formula, just a flexible approach to score in maths and science

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The students who took part in the International Olympiads, with principal Dr Hang Kim Hoo. PHOTO COURTESY NUS HIGH SCHOOL OF MATH & SCIENCE

IT'S been less than four years since its opening, but students from the NUS High School of Mathematics and Science (NUSHS) are already up there with the world's best — judging from recent showings at international Olympiads and the United States College Board's Advanced Placement exams.

More importantly, the students are relishing the challenge. Physics whiz Zhao Ye, for example, represented her school at the Intel International Science and Engineering Fair in the US in May, and at the International Physics Olympiad in Vietnam last month. Describing the latter, which involved two gruelling five-hour theory and practical sessions as “very enjoyable”, the 19-year-old said: “It was very good to see people passionate about physics, and it also allowed us to think deeply and analyse concepts.”

For the fair, she and school-mate Zhai Weichao showcased a school research project that harnesses sunlight to change the physical and chemical properties of nano-materials, which could be applied in solar cells and gas sensors. At three international Olympiads held last month — for chemistry, physics and mathematics — NUSHS students made up at least half the teams comprising four to six members sent by Singapore.

“There's no secret formula (to our success),” said principal Dr Hang Kim Hoo. “A differentiated and flexible approach has been employed from Day One to let students get engaged, enjoy and understand.” Dr Hang added that as students entering NUSHS already show an aptitude for science and maths, the key was to “sustain their passion” in these areas by adopting an inquiry approach during lessons - getting them to develop experiments instead of simply performing them, for example.

And it is not a case of just a few NUSHS star performers performing well at competitions. Many of its Year Five and Six (equivalent to the junior college level) cohort sat for the Advanced Placement Examinations – exams that allow high school students to partake in university-level courses – this year. The results were impressive.

For example, over half the cohort sat for the Chemistry paper, and scored a mean grade of 4.65 (the highest possible grade is 5). The mean grade was 5 for the 64 students who took Calculus BC and 35 who took Physics C (Mechanics) and Physics C (Electricity & Magnetism).

These achievements give “the assurance that we are on the right track”, said Dr Hang. Zhao Ye, for example, plans to use her stellar Advanced Placement grades (a score of 5 in seven papers) to apply for a place at the Massachusetts Institute of Technology.

The NUSHS opened in January 2005, the second of the Ministry of Education's specialised independent schools. The others are the Sports School, the School of the Arts, and the upcoming School of Science and Technology. At the end of its six-year programme, students are awarded the NUS High School Diploma.