



The 4th issue of *Gifted Gateway* has been released with contents covering the “Hong Kong Gifted Education Summit and Exhibition – STEM Policies and Practices” that will be held in December this year, the learning opportunities in the HKAGE, a research sharing on the “Telephone Opinion Survey of the HKAGE Students and Alumni”, and the forthcoming student events from January to March. We hope this quarterly e-newsletter can provide student members, parents, educators and people who are interested in gifted education with a source of information, and we sincerely wish that this will facilitate student members’ applications for our programmes.

Events of the HKAGE

The “Hong Kong Gifted Education Summit and Exhibition – STEM Policies and Practices” to be held in December

To be in line with the education policy of enriching Science, Technology, Engineering and Mathematics (STEM) Education in local primary and secondary schools, the Hong Kong Academy for Gifted Education (the HKAGE) has especially organised this two-day (9 and 10 December) “Hong Kong Gifted Education Summit and Exhibition – STEM Policies and Practices”.

The event has invited educators and policy makers from Israel, Japan, Mainland China, South Korea, Taiwan, the United Kingdom and Hong Kong to share the relevant policies and school practices of STEM education around the world. Six local universities (including the University of Hong Kong, the Chinese University of Hong Kong, the Hong Kong University of Science and Technology, the Hong Kong Baptist University, the City University of Hong Kong and the Hong Kong Polytechnic University) are also invited to this event to showcase their achievements on STEM. You are advised to apply early as seats are limited.

Online application: <https://hkage.org.hk/events/stem2016/Registration/appForm.php>

Learning opportunities in the HKAGE

We offer high quality challenging programmes and services to students in different learning areas. In this issue, we would like to highlight the Mathematics Domain.

The Mathematics programmes that we offer cover the following strands:

- Numbers and Arithmetic
- Algebra
- Analytical Study
- Geometry and Topology
- Discrete Math, Probability, Statistics
- Across Domains and Interdisciplinary

The programmes are categorised into 5 levels according to their level of difficulties. "Exploration" would be the main theme of the lower level programmes, which is followed by higher level programmes nurturing students with more rigorous and strict proves using Mathematical language.

All these programmes are designed for students to develop their logical, critical and analytical thinking skills, promote learning interest and foster an attitude of self-directed learning.

Mathematics Programmes Revisit for Summer 2016

In summer 2016, over 20 Mathematics programmes were offered to our primary and secondary student members. A few are revisited as follows:

Primary Programmes

Perspectives on Junior Secondary Mathematics - Geometry (MATP2311)

Do you want to inquire advanced mathematics knowledge step by step? Mathematics knowledge is built from foundation. This programme teaches the key geometric knowledge at junior secondary level in a succinct way to equip participants with the basic knowledge required for learning mathematics at an advanced level. It enables participants to learn mathematics at higher levels according to their own interests and abilities, and discover the joy of learning Mathematics.

This is one of the programmes in the Subject Core Series which is comprised of four level 1 programmes. They are namely

1. Numbers (MATP2411)
2. Algebra (MATP2211)
3. Geometry (MATP2311)
4. Probability and Statistics (MATP2711)

Students' feedback:

- Very Good, Excellent!
- This is the first time I joined a face-to-face course. I met some new classmates there and I'm very happy!
- Very good. Classmates and teachers were very kind, and the teachers taught us wholeheartedly.
- I have learnt about the rotation, reflection and translation of plane graphics and it is greatly beneficial to me. This course is very helpful in getting me prepared for promoting to the secondary school. I will join courses like this again if there is any.
- This course is very good. It allows us to learn about Mathematics of junior secondary school level in advance.
- I hope there will be similar courses offered next year.

Creative Geometry with GeoGebra (MATP1331)

GeoGebra is a dynamic mathematics software that brings together geometry, algebra, spreadsheets, graphing, statistics and calculus in one package. It is very popular with students and teachers around the world. This programme is designed to develop geometric thinking and cultivate creativity and problem-solving skill through graphing and constructing geometric figures by using GeoGebra.

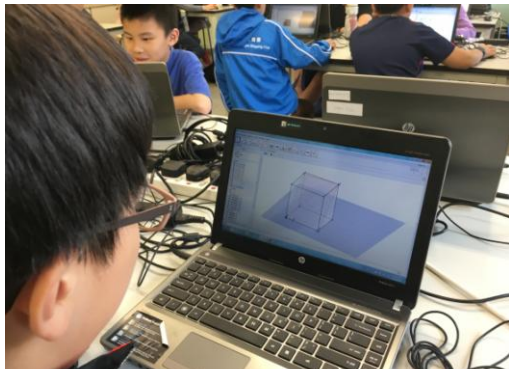
This is the first part of a three-part course on GeoGebra.

Part	Course Name and Code
1	Creative Geometry with GeoGebra (MATP1331)
2	Excursions in GeoGebra (MATS2320)
3	Further Excursions in GeoGebra with Programming (MATS3210)

Throughout the 3 courses, students could learn the dynamic mathematics software GeoGebra in a progressive way, from basic operations to more advanced manipulations of the software through the application of Computer Algebra System (CAS).

Students' feedback:

- Will there be more courses available?
- I have learnt to apply various mathematical knowledge. I have learnt a lot of new things.
- This programme is very inspiring which helps me to learn new skills, and enable me to communicate with other HKAGE students, not only teachers.



Constructing 3D Figures



The students were engaged in doing and exploring mathematics

Secondary Programmes

Plane Geometry (MATS2310)

Geometric figures always appear around us such as parallel and perpendicular lines on the walls of buildings, circular wheels of vehicles. In this course, properties of plane figures including triangles, rectangles, parallelograms, etc will be revised. Also, basic elements like chords, arc angles in a circle will be introduced and their geometric relations will be explored.

This is the third programme in the Subject Core Series which is comprised of four level 2 programmes. They are namely:

1. Equations and Identities
2. Handling Sequences and Series
3. Plane Geometry
4. Quadratic Functions and Standard Conics

Students' feedback:

- Extend to five-day course.
- Better to have more lessons.
- This course is fun and interesting. I learnt a lot about geometry and related Mathematics skills. Thanks!
- The topic on circles is very interesting.
- The teacher is very nice and knowledgeable. He presents the course clearly and thoroughly.
- This course has deepened my interest in Mathematics.
- This course allows me to learn a lot on plane geometry and it is very beneficial to me. I look forward to joining courses like this again.

Speaking of Statistics (MATS1720)

The course is an introductory course in statistics focusing on the application of the knowledge to daily-life situations. The six sessions cover various elementary topics suitable for junior secondary school students such as measures of central tendency and sampling methods.

Computations will be kept minimal, the course places emphasis on the establishment of proper statistical senses and concepts.

Students' feedback:

- It was really good.
- It would be better if the course duration could extend from 2 to 3 hours, because courses of the HKAGE usually last for 3 hours.
- This course is very good.
- I have learnt a lot of new things, and I have learnt that some organisations might be misleading and using the wrong method when conducting a survey.
- The course is interesting. I have learnt to work on statistics with a calculator.



Hands-on Workshop



Mass Lecturing

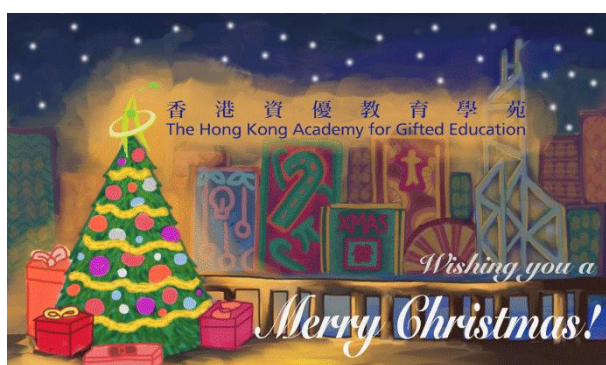
The HKAGE Christmas E-Card Design Competition 2016 - Final Results

The HKAGE Christmas E-Card Design Competition 2016 was successfully completed. After active voting by HKAGE student members and deliberate consideration by the panel of judges, we are glad to announce the final results. Members of the Judging Panel include the HKAGE, Mr. John Ho (multi-media artist), Mr. So Real Real (comics artist, illustrator, writer and the host of "Chinese Made Efficient" by RTHK), Ms. Lydia Yang (visual art teacher from the HKICC), and Ms. Suzannie Leung Kit Ying (Senior Lecturer, School of Education and Languages, The Open University). The results are as follows:

Primary Group

<p>Champion & Most Popular Design Award CHAN SHEUNG YING</p>	<p>1st runner-up LAU HEI TSZ</p>	<p>2nd runner-up CHAN YIU SING</p>

Secondary Group



Champion & Most Popular Design Award
MICHELLE WAI MAN LO



1st runner-up
WONG WAI YIN



2nd runner-up
CHAN KRISTY



2nd runner-up
YU MIN CI HELEN

For details, please visit: <http://www.hkage.org.hk/en/competitions/detail/3165>

Research Sharing

Telephone Opinion Survey of the HKAGE Students and Alumni

Introduction

The Hong Kong Academy for Gifted Education (the HKAGE) commissioned the Centre for Communication and Public Opinion Survey (CCPOS) of the Chinese University of Hong Kong to conduct two surveys gauging the views of its students and alumni. The surveys were carried out in early March 2016. Samples were randomly chosen. All interviewees were the secondary students and alumni who had participated in the HKAGE's courses by the end of 2015. CCPOS conducted the surveys via phone interviews with the aid of Computer Assisted Telephone Interview (CATI) system. 302 secondary students and 199 alumni were successfully interviewed and the response rates were 52% and 41% respectively. The major findings are summarised below.

Findings and Discussions

With regard to their opinions on the HKAGE's programmes and services (see Table 1), the followings could be observed:

- Most of our students and alumni were satisfied with our programmes and services; especially in “improving knowledge of a particular domain”, “deepening interest in particular domain”, and “broadening horizons”.
- On the other hand, there was room for improvement in the area of social aspect (such as “enhancing communication and social skills” and “widening the scope of social connection”) and in the aspect of personal growth and development (such as “plan for the future” and “enhancing leadership skills”).

Table 1: Proportions of students and alumni who had positive views on certain aspects of the Academy's courses and services

Aspect concerned	Students	Alumni
Broadening horizons	82.1%	73.4%
Improving knowledge of a particular domain	80.8%	64.8%
Deepening interest in a particular domain	74.2%	65.4%
Overall satisfied with the HKAGE's course & services	81.8%	62.3%
Enhancing communication and social skills	47.4%	36.6%
Widening the scope of social connection	48.0%	41.3%
Helping others to plan for the future	49.3%	30.1%
Enhancing leadership skills	40.4%	28.6%

With regard to learning expectations and current situation/future development, the followings were found in the survey:

- In general, our students had a wide scope of interests, including physics, chemistry, mathematics, biology, languages and humanities, leadership, social sciences and in personal growth and social development.
- Most of our students wanted to study in local universities.
- Although around half of our students indicated that they wanted to study in Science subjects, the subjects majored by our alumni were quite widely spread instead (see Table 2).

Table 2: Proportions of students and alumni who currently studied or intended to study in different subjects

Subject	Student	Alumni	
	Intend to study*	Current situation^	Intend to study^^
Arts	14.6%	6.5%	11.6%
Sciences	50.3%	15.7%	26.4%
Commerce	13.9%	16.8%	14.0%
Social Sciences	12.9%	17.3%	19.8%
Engineering	16.2%	14.1%	13.2%
Medicines	27.5%	14.6%	19.0%
Laws	11.9%	4.3%	4.1%
Others/NA	2.0%/2.3%	12.4%/0.0%	12.4%/3.3%

Note: * More than one choice was allowed.

^ Only those who were studying in or had studied in a bachelor degree or above were asked (93.0% of alumni).

^^ Only those who intended to study in the future (60.8% of alumni) were asked and more than one choice was allowed.

With regard to performance and achievement, the followings were found in the survey:

- Among alumni taking the Hong Kong Diploma of Secondary Education Examination (HKDSE), 5.8% of them achieved Level 5** in five or more subjects (note: only 0.1% of day-school students achieved Level 5** in five or more subjects). Besides, among the alumni who had completed undergraduate programmes, 31.3% of them had been on the Dean's List or graduated with First-Class Honours. Among the alumni who were taking undergraduate programmes at the time of interview, 19.6% of them had been on the Dean's List. From these data, it was obvious that our alumni had outstanding performance in public examinations and they did quite well in universities.
- It was not uncommon that our students and alumni participated in local or international competitions and won top three prizes/awards, and obtained internal or external scholarships.
- However, a proportion of our students and alumni still opined that they did not have any achievements to be proud of in recent years. This indicates the needs of affective education for our student members to boost their self-confidence and learn to appreciate themselves.

Forthcoming Student Programmes and Events in January to March 2017 (Free of Charge)

<u>Date</u>	<u>Programme/ Event</u>	<u>Target Participants (HKAGE student members)</u>
Humanities (Primary)		
14 Jan, 4, 18 Feb 2017 2:00 p.m. – 4:30 p.m. 21 Jan, 11 Feb 2017 2:00 p.m. – 5:00 p.m. 25 Feb 2017 2:00 p.m. – 4:30 p.m.	Chinese Literature Appreciation: Literature Tour (CLLP2111) Application (Language: Cantonese)	P4 – P6
Humanities (Secondary)		
25 Feb 2017 10:00 a.m. – 12:00 noon	Exploring Hong Kong from the Perspective of Sustainable Cultural Tourism (HUMT1570) Application (Language: Cantonese)	S1 – S6
7, 14, 21 Jan, 4, 11, 18 Feb 2017 2:00 p.m. – 5:00 p.m.	A Thematic Study of Literature in English: Empathy and Grit (ELLS1282) Application (Language: English)	S1 – S3
14, 21 Jan, 4, 18 Feb 2017 2:00 p.m. – 5:00 p.m. 11 Feb 2017 5:00 p.m. – 8:00 p.m.	Film Studies: From Theory to Critical Appreciation (HUMS2720) Application (Language: English)	S4 – S6
Mathematics (Primary)		
7Jan 2017 2:00 p.m. – 5: 30 p.m 14Jan 2017 9:00 a.m. – 12:30 p.m. 21Jan 2017 9:30 a.m. – 12:30 p.m.	Geometry and Topology Course (Level 1): Geometry and Trigonometry (MATP1321) Application (Language: Cantonese)	P4 – P6
14Jan 2017 2:00 p.m. – 3:15 p.m.	Mathematics Talk: Mathematics and Politics (MATT1710) Application (Language: Cantonese)	P4 – P6

11,18 ,25 Feb 2017, 4 Mar 2017 9 :30a .m. – 12 :30 p.m.	Algebra Course (Level 1): Algebra Enrichment 2 (MATP2212) Application (Language: English)	P4 – P6
11,18 ,25 Feb 2017, 4 Mar 2017 9 :30a .m. – 12 :30 p.m.	Discrete Math, Probability, Statistics Course (Level 1): Probability 2 (MATP2512) Application (Language: English)	P4 – P6
18 ,25 Feb 2017, 4 ,11,18 Mar 2017 9 :30a .m. – 12 :30 p.m.	Geometry and Topology Course(Level 1):Line, Angle, Shape and Geometrical Construction (MATP2312) Application (Language: Cantonese)	P4 – P6
Mathematics (Secondary)		
2, 3 Feb 2017 9:00 a.m. – 1:00 p.m. 2:00 p.m. – 5:00 p.m.	HK Winter Mathematics Olympiad 2016-17 (MATS1100) Application (Language: Cantonese)	S2 – S6
4 Feb 2017 10:00 a.m. – 11:00 a.m.	Mathematical Talk: Congruence and Its Application (MATT3300) Application (Language: Cantonese)	S4 – S6
4, 11, 18, 25 Feb 2017 2:00 p.m. – 5:00 p.m.	Maths Ignition – Coordinate Geometry (MATS2115) Application (Language: Cantonese)	S1 – S3
11, 18, 25 Feb ,4, 11, 18 Mar 2017 9 :30a .m. – 12 :30 p.m.	Survey Sampling and Data Analysis (MATS2720) Application (Language: English)	S4 – S6
11, 18, 25 Feb, 4, 11 Mar 2017 9:30 a.m. – 12:30 p.m.	Mathematics in Physics Course (Multi-disciplinary Course): A Taste of Mathematical Methods in Electromagnetism (MULS2051) Application (Language: Cantonese)	S4 – S6
Sciences (Primary)		
1, 2 February 2017 9:30 a.m. – 12:30 p.m.; 2:00 p.m. – 5:00 p.m.	Electrostatics and Current Electricity (SCIP1051) Application (Language: Cantonese)	P4 – P6
11, 18 February 2017 10:00 a.m. – 1:00 p.m.; 2:00 p.m. – 5:00 p.m.	Food Science in Daily Life (SCIP1331) Application (Language: Cantonese)	P4 – P6
Sciences (Secondary)		
11, 18, 25 Feb, 4, 11 Mar 2017 9:30 a.m. – 12:30 p.m.	Mathematics in Physics Course (Multi-disciplinary Course): A Taste of Mathematical Methods in Electromagnetism (MULS2051) Application (Language: Cantonese)	S4 – S6
2, 3 Feb 2017 10:00 a.m. – 1:00 p.m.; 2:00 p.m. – 5:00 p.m.	Biochemistry Course: The molecules of Life (SCIS2281) Application (Language: English)	S4 – S6
Leadership (Secondary)		
21 Nov 2016 6:00 p.m. – 7:15 p.m.	Leadership Talk: Leader's vision and mindset (LEAT1181) Application (Language: Cantonese)	S1 – S6
11, 18, 25 Feb, 4, 11 Mar 2017 9:30 a.m. – 12:30 p.m. & 25 Mar 2017 9:30 a.m. – 12:30 p.m. 2:00 p.m. – 5:00 p.m.	Project Management: Leading the Team for Project Success (LEAS2421) Application (Language: Cantonese)	S3 – S6

Personal Growth and Social Development (Primary)		
14 Jan, 11,18 Feb, 11,18 Mar, 22 Apr 2017 9:00 a.m. – 1:00 p.m. [Two sessions a day, total 12 sessions, students need to choose any ONE session]	Let Us Shine (PGSPWCC0041-PGSPWCC0052 Application (Language: Cantonese)	P4 – P6
Personal Growth and Social Development (Secondary)		
21 Jan 2017 9:30 a.m. – 12:30 p.m.	Affective Education Workshop – Self Management (II) (PGSSW0016) Application (Language: Cantonese)	S1 - S3 HKAGE student members, priority will be given to those who attended Affective Education Workshop - Self Management (I).
25 Feb 2017 9:30 a.m. – 12:30 p.m.	Affective Education Workshop – Self Management (III) (PGSSW0017) Application (Language: Cantonese)	S1 - S3 HKAGE student members, priority will be given to those who attended Affective Education Workshop - Self Management (I).
6 Jan 2017 6:00 p.m. – 8:00 p.m.	Fri-vers' nite: Sorting out stress (PGSST0007) Application (Language: Cantonese)	S1 – S6
10 Feb 2017 6:00 p.m. – 8:00 p.m.	Fri-vers' nite: Search for your origin (PGSSS0011) Application (Language: Cantonese)	S1 – S6
3 Mar 2017 6:00 p.m. – 8:00 p.m.	Fri-vers' nite: Knight of the Dark (PGSSS0012) Application (Language: Cantonese)	S1 – S6
Advanced Learning Experiences		
20 Jan 2017, 10 Feb 2017	Come ToGather (Student Sharing Group) (ST/005.ST/006 , ST/008.ST/009) Application (Language: Cantonese)	S1 – S6

6:30 p.m. – 8:30 p.m. 25 Feb 2017 10:00 a.m. – 11:30 a.m. 10 Mar 2017 6:30 p.m. – 8:30 p.m.		
Competition		
2 Sep 2016 – 30 Aug 2017	Gifted Angels – Service Learning Competition 2016-17 (Language: Cantonese / English)	S1 – S6
Student Conference		
14 Oct 2016 – 3 Aug 2017	The 3rd HKAGE Student Biennial Conference (Phase I: Call for Study Projects) (Language: Cantonese / English)	All secondary school students

Tentative Student Programmes and Events in January to March 2017 (Free of Charge)

<u>Tentative Date</u>	<u>Programme/ Event</u>	<u>Target Participants (HKAGE student members)</u>
Humanities (Primary)		
Feb to Mar 2017	English Debate (ELLP1282) (Language: English)	P4 – P6
Humanities (Secondary)		
Jan to Mar 2017	Positive Psychology – The Science of Happiness and Wellbeing (HUMS1412)	S1 – S3
Mathematics (Secondary)		
Mar to May 2017	Mathematical Analysis - An Overture, Second Movement (MATS3611) (Language: English)	S1 – S6
Sciences (Primary)		
Jan to Mar 2017	Particles and Matter (SCIP 1101) (Language: Cantonese)	P4 – P6
Jan to Mar 2017	Computer Controlled Robotics: Dash & Dot (TECP 1131) (Language: English)	P4 – P6
Jan to Mar 2017	Diversity of Plants and Animals (SCIP 1201) (Language: Cantonese)	P4 – P6
Jan to Mar 2017	Making a Monocular (SCIP 1061) (Language: Cantonese)	P4 – P6
Jan to Mar 2017	Newton's Law in Robots (TECP 1141) (Language: Cantonese)	P4 – P6
Jan to Mar 2017	Be a Game Designer (TECT 1211) (Language: Cantonese)	P4 – P6
Sciences (Secondary)		
Jan to Mar 2017	Biology Core Programme (SCIS2201) (Language: Cantonese)	S1 – S3
Jan to Feb 2017	Behavioural Finance II Course (TECS3732) (Language: English)	S4 – S6
Feb 2017	3D printing course(TECS1021) (Language: English)	S4 – S6
Feb 2017	Mobile Apps Course (TECS1231) (Language: English)	S1 – S3
Feb to Mar 2017	Introductory Course in Climate Change: Green Pioneers (Part II) (SCIS1332A) (Re-run) (Language: Cantonese)	S1 – S3
Mar 2017	Computer Controlled Robotics Course (TECS1131) (Language: English)	S1 – S3
Mar 2017	Product Development Talk (TECT1002) (Language: English)	S1 – S6

	Cantonese)	
Mar 2017	Electricity II Course (SCIS2052) (Language: English)	S4 – S6
Mar 2017	Introductory Talk on Technology: Aerial Photography/Videography Using a Drone (TECT1101) (Language: Cantonese)	S1 – S6
Multi-disciplinary (Secondary)		
Feb to Mar 2017	Leading to a Sustainable Future (MULS3911) (Language: Cantonese)	S4 – S6

For updated information of tentative student programmes and events, please visit:

<http://www.hkage.org.hk/en/student-programme/face-to-face>.

For details of online programmes, please visit: <http://www.hkage.org.hk/en/student-programme/online>.

For details of Programme Subsidy Scheme for Student Members, please visit:

<http://www.hkage.org.hk/students/student/programmes/subsidy-scheme/for-students>.

For details of parent and educator programmes, please visit: <http://www.hkage.org.hk>.