

European Section High School Handbook of Studies

For courses beginning August 2016

Table of contents

Overview	
GESS educational goals	page 3
Choosing the right programme	page 4
The IB Diploma	page 5
The programme core	page 6
The GESS High School Diploma	page 7
Courses	
First language	page 10
Second language	page 12
Humanities	page 14
Sciences	page 16
Mathematics	page 20
Art and electives	page 22
Appendices	page 23
Contacts	page 23
Language selection	page 23
Secrets to success	page 25
German and Netherlands university requirements	page 26
Timeline for Diploma Course Selection	page 26

GESS Educational Goals

To attain the goals of Learning, Living and Giving we have established objectives towards which our curricula, programmes and policies are directed:

LEARNING

Our students are well prepared for the wider world. To this end they:

- are literate, numerate, adaptable and resilient.
- are independent learners who are willing and able to acquire and apply knowledge.
- have the courage to try new roles, concepts and strategies.
- can access, validate, evaluate, synthesize and communicate information.
- are grounded in a wide range of disciplines from the languages and arts to sciences and humanities.
- can communicate effectively in at least two languages. Students are highly competent in the language of instruction, being English in the European Section and German in the German Section.
- carry recognised and valued qualifications that give them a variety of opportunities for their future education.

LIVING and GIVING

Our students are responsible, critical thinking and cosmopolitan. To this end they:

- appreciate their cultural roots while remaining respectful towards and interested in different cultures.
- establish and sustain positive relationships acting with integrity.
- understand and reason perspectives, recognise the point of view of others and justify opinions.
- work with others towards a common goal, offer and accept criticism constructively.
- contribute positively to their community at the local, regional and global scale, being aware of their role within it.
- take responsibility for their actions.
- lead a healthy and balanced life.

Choosing the right programme for your child

This handbook contains the proposed IB diploma courses for the academic year beginning August 2016 at GESS and should be read in conjunction with the current edition of the *GESS Parent and Student Handbook*.

It is essential that you spend time having serious discussions with your child about his or her long-term future before selecting courses from this booklet.

There are two high school pathways offered at GESS (grades 11-12)

The International Baccalaureate Diploma (detailed on page 5) or the GESS High School Diploma (detailed on page 7)

As an addition to these courses all students will follow a Study Skills course designed to enhance the GESS student's independent learning, this includes Personal Social and Health education and University Guidance.

Remember, whatever programme your child studies at GESS he or she will gain *roots* and *wings* through:

- Excellence in education
- The best trained international educators
- Internationally respected curricula models
- The best from current international and multi-cultural pedagogy
- Thorough internal and external assessment models
- Rewarding and achievable challenges for all students
- University style independent research experience
- Social service activities
- Opportunities to achieve accelerated university credit.

Online learning with Pamoja Education

As part of our plans to increase the breadth of our IB Diploma programme we are currently piloting courses using the Pamoja online IB Diploma course provider. Over the coming years it is hoped this may provide a way of supporting our students continued technological skills development whilst enabling access to a wider range of subjects.

Acceptance on to a Pamoja DP course would normally be available only to those students demonstrating exceptional motivation and personal organisation skills. Occasionally, therefore, GESS may not regard an application to be in the best educational interests of the student. Applications to enrol for a Pamoja course are reviewed on a case-by-case basis.

It should also be noted that this option carries costs in addition to the standard school fees for G11 and G12 students. Furthermore, delivery of a Pamoja course is not the responsibility of GESS, however, the school does provide a Site-Based Coordinator to closely monitor online students' progress and administrative support for handling the IB assessment requirements. To find out more details about Pamoja please visit their website: <http://www.pamojaeducation.com>

International Baccalaureate (IB) Diploma

The IB Diploma is an internationally recognised pre-tertiary programme designed to meet the needs of highly motivated high school students. It is a comprehensive two-year programme which enables students to fulfil the requirements of various national education systems; the IB's curriculum model incorporates the best elements of several national assessment systems. Students select six courses which they study for two years and complete a compulsory core.

Both of these pathways take some elements from the IB Diploma Model pictured below:



In the IB Diploma pathway students select six subjects from each of the following groups:

1. First language and/or literature (A) – normally the student's mother tongue or English
2. A second language
 - a. Intermediate second language (B) - several years' experience in the language
 - b. Foundation second language (ab initio) – new to the language or near to beginner level
 - c. Another language and/or literature (A)
3. Humanities
4. Experimental Sciences
5. Mathematics
6. Option (Visual Arts or a second subject from one of the above).

At the core of both high school pathways

Creativity, Action and Service (CAS)

Compulsory component

The IB's goal is to educate the whole person and foster responsible, compassionate citizens. The CAS programme encourages students to share their energy and special talents with others: Students may, for example, participate in theatre or musical productions, sports and community service activities. Students should, through these activities, develop greater awareness of themselves, concern for others, and the ability to work cooperatively with other people. To fulfil requirements our students must remain engaged in the programme throughout the two years. They should individualise their CAS programme so it supports their own personal interests. This should ensure that CAS is an enjoyable and challenging part of the Diploma.

The CAS co-ordinator's role is to support and advise students through their CAS programme and encourage meaningful reflections, addressing the learning outcomes defined within CAS, through discussions in class or out of class and questions or comments posted on Manage Bac. We use Manage Bac, an on-line program, to record all DP progress.

Theory of Knowledge (TOK)

Compulsory component for IB Diploma

This is an interdisciplinary requirement intended to stimulate critical reflection on the knowledge and experience gained inside and outside the classroom. The course challenges students to question the bases of knowledge, to be aware of subjective and ideological biases, and to develop the ability to analyse evidence that is expressed in rational arguments. It is a key element in encouraging them to appreciate other cultural perspectives. The course is unique to the IB, which recommends at least 100 hours of teaching time spanning the programme's two years. The course is evaluated through an in-class presentation and an externally assessed essay written on one of six yearly prescribed titles published by the IB.

The Extended Essay (EE)

Compulsory component for IB Diploma

The essay requirement acquaints diploma candidates with the kind of independent research and writing skills expected by universities. The essay encourages you to add *depth* to your programme of study, for example, by selecting a topic in one of your higher level (HL) courses. The essay entails about 40 hours of private study and writing time and you will be allocated a supervisor who will support you along the way. Supervisors are allowed to spend 3-5 hours assisting you.

GESSE High School Diploma Certification Pathways

The GESS High School Diploma offers students the chance to pursue a variety of IB courses without having to complete the full breadth of the requirements of the full IB Diploma Programme Certification.

The GESS High School Diploma is suitable for those students who would find the academic demands of completing a full IB Diploma challenging. The GESS high school diploma offers students the chance to study alongside their peers within a smaller range of subjects. In this way the students can concentrate their studies and have a more accessible pathway to success. Each subject studied will be the full official IB course, and so GESS High School Diploma students will undertake the same assessments and have the opportunity to obtain IB endorsed subject certificates alongside working towards their GESS High School Diploma Certificate.

In the GESS High School Diploma there are two pathways:

Pathway One	Pathway Two
<ul style="list-style-type: none"> • Creativity action and service (CAS). • Two higher level subjects and two standard level subjects from the following four areas: <ol style="list-style-type: none"> i. A group One Subject (Language) ii. A group Five Subject (Mathematics) iii. A group three or group four subject (Science or Humanities) iv. A second group three or Four subject. 	<ul style="list-style-type: none"> • Creativity, action and service (CAS). • One higher level subject and four standard level subjects from the following areas: <ol style="list-style-type: none"> i. Group One Subject (Language) ii. Group Five Subject (Mathematics) iii. Group three or group four subject (Science or Humanities) iv. A second group three or Four subject. v. A group one, two or six subject. (Language or Arts)

Creativity, action and service (CAS) is considered to be a vital component of the GESS High School Diploma as it offers students a counterbalance to academic studies, allowing for students to enhance their profile beyond the school. CAS also allows for students to build up a variety of personal and interpersonal skills sets which could not be attained purely through academic study. These attributes are highly desirable to tertiary education institutes and employers.

How is this different from following the full certification IB diploma programme:

- No Theory of Knowledge or Extended Essay requirement.
- No need to follow six subject courses, with three at higher level.
- On the IB diploma students have to select at least one subject from groups 1-5, this keeps a wider breadth to your course of study, with the GESS High School Diploma pathway students will be able to select a more focused pathway.
- You cannot select a subject which is only available via Pamoja.

Keep in mind:

It is important to note that the IB Diploma Programme certificate has international recognition, selecting the GESS High School certification route means that the tertiary education options upon a students graduation will be more restricted.

Graduation:

A student undertaking the GESS High School diploma would receive both a GESS High School Diploma certificate and transcript upon their graduation. This is in addition to the individual IB endorsed subject certificates which the IB would award.

GESSE High School Diploma Transcript (August 2016 onwards)

At GESS there are three reporting seasons in grades 11 and two reporting sessions in grade 12, the academic achievement awarded in each subject will be used to calculate the number of credits awarded over the two year period. The transcript is important for applications into tertiary education.

Two important pieces of terminology:

Grade Point Average (GPA): This will be calculated for each reporting session, and is based on a student's average attainment across all of the academic subjects they study.

Credits: During grades 11 and 12 students have the opportunity to earn a maximum of 150 credits. A credit is earned based on their academic achievement scaled against the course type (higher level or standard level).

How will we calculate the points and credits?

Step 1: Converting IB diploma subject achievement into a point score

IB Subject achievement (Graded on a scale of 1-7)	GESSE High School Diploma Points (Converted to a scale 1-4)
1	1.0
2	1.5
3	2.0
4	2.5
5	3.0
6	3.5
7	4.0

For example if a student scores a 6 on their Economics report card, this would be converted to 3.5 points on the transcript. The GPA would be calculated by adding all the subject points together and dividing the total by the number of subjects taken.

Step 2: Calculating your credits

A point in a higher level subject is worth two credits, a point in a standard level subject is worth one credit. In addition students will be able to earn one credit each reporting season if they successfully complete their CAS activities.

The number of points attained in a subject will be multiplied by the number of credits for that course to obtain the total number of credits. For example if a student scores 3.5 points in HL economics this would count towards 7 credits in their GESSE High School Diploma ($3.5 \times 2=7$).

	Pathway 1 (Two HL subjects and two SL subjects)	Pathway 2 (One HL and four SL subjects)
	Number of credits available per subject course	
Subject 1:	4 (SL)	4 (SL)
Subject 2:	4 (SL)	4 (SL)
Subject 3:	8 (HL)	4 (SL)
Subject 4:	8 (HL)	4 (SL)
Subject 5:		8 (HL)
CAS	1	1
Total maximum number of credits:	25	25

5 reporting seasons x 25 maximum credits each season = **125 credits** maximum.

62 credits required for a pass (GESSE High School Diploma Awarded), 105 credits required for a distinction.

SECTION TWO

COURSE DESCRIPTIONS

Please note, all courses outlined in this guide are dependent upon staff availability and student interest. This means the courses we offer may vary from year to year.

Choosing your subjects

Some subjects go better together than others and some degree courses will have specific expectations. For instance, to study medicine at university requires Higher Level Chemistry and one other higher level Science or Maths. Although the school will advise students on their course choices, it is up to them to do some research too. If any student is unsure, choosing subjects that he or she enjoys is a very good start! We encourage students to talk with their homeroom teachers, subject teachers, University Guidance & Careers Counsellor and current IB students. Each student needs to think about what he or she is best at and what he or she enjoys the most. Every student is invited to have an interview with the University Guidance & Careers Counsellor to discuss the best course options and students should have some good ideas to bring to such an interview.

Dear Student,

During grade 10 you need to get a realistic understanding of your academic strengths and capabilities. You must also begin to form ideas for possible career pathways and based on these, where would need to go for further study after leaving school. As such, you should think carefully about what kind of IB Diploma is for you next year. There is no advantage in taking on the high demands of a particular selection of IB Diploma subjects if it leads to a demoralizing grade 11 in which the advice of your grade 10 teachers is proved right in the harshest of terms. Choose a programme of study that will stretch you academically but not to the point of failure. We advise you to talk frankly with your teachers, take in ideas from your parents and those of the careers counsellor. All these people can help guide your decision-making in this very important year.

The Diploma Programme Coordinator

First Language (IB Diploma Group 1)

English A Language and Literature HL (2 years)

Prerequisites: Minimum MYP Language A level 5 (or a recognised equivalent)

Course content consists of four parts: two focused on language and two focused on literature. Six literary texts in the form of novels, plays, short stories and poetry are studied as well as supplementary texts such as images, advertisements, and other non-verbal texts. Students develop the skills to read analytically and write in a variety of registers, including academic writing. A range of literary concepts is taught with a view to expanding students' awareness of how audience, form, and purpose affect style and message. Regular assignments ensure the students explore each text in detail. Assessment comprises class written tasks, presentations, and formal oral and written examinations. Final assessment involves one comparative textual analysis (25%), one discursive essay (25%), two oral presentations (30%) and two pieces of independent writing (20%).

English A Language and Literature SL (2 years)

Prerequisites: Minimum MYP Language A level 4 (or a recognised equivalent)

Course content consists of four parts: two focused on language and two focused on literature. Four literary texts in the form of novels, a plays, short stories and poetry are used as well as supplementary texts such as images, advertisements, and other non-verbal texts. Students develop the skills to read analytically and write in a variety of registers, including academic writing. A range of literary concepts are taught with a view to expanding students' awareness of how audience, form, and purpose affect style and message. Regular assignments ensure the students explore each text. Assessment comprises class written tasks, presentations, and formal oral and written examinations. Final assessment involves one textual analysis (25%), one discursive essay (25%), two oral presentations (30%) and one piece of independent writing (20%).

Dutch A Language and Literature HL (2 years)

Prerequisites: Minimum MYP Language A level 5 (or a recognised equivalent)

Het DP-programma Language and Literature HL bestaat uit twee delen: taalbeschouwing en literatuur. De twee taalbeschouwende onderwerpen zijn: 'Taal in een culturele context' en 'Taal en massacommunicatie'. Daarnaast worden er in totaal zes literaire teksten gelezen die bestaan uit romans, toneel, korte verhalen en poëzie. Verder zullen a n d e r e relevante literaire werken en teksten aan bod komen. De nadruk ligt op het ontwikkelen van analytische lees- en schrijfvaardigheid. De literaire werken worden geanalyseerd en beschreven in essays en commentaren en besproken tijdens presentaties. De leerlingen krijgen regelmatig opdrachten waarmee zij zich verdiepen in de verschillende werken, bestaand uit introductieopdrachten, essays en presentaties. De assessments bestaan uit: essays, presentaties en schriftelijke examens. De eindexamens bestaan uit: een tekst vergelijkende analyse (25%), een essay (25%), twee mondelinge presentaties (30%) en twee vrije schrijfopdrachten (20%).

Dutch A Language and Literature SL (2 years)

Prerequisites: Minimum MYP Language A level 4 (or a recognised equivalent)

Het DP-programma Language and Literature SL bestaat uit twee delen: taalbeschouwing en literatuur. De onderwerpen bij taalbeschouwing zijn 'Taal in een culturele context' en 'Taal en massacommunicatie'. In totaal worden vier literaire werken gelezen die bestaan uit verschillende teksten en genres. Daarnaast zullen relevante andere literaire werken en teksten aan bod komen. De nadruk ligt op het ontwikkelen van analytische lees- en schrijfvaardigheid. De literaire werken worden geanalyseerd en beschreven in essays en commentaren en besproken tijdens presentaties. De leerlingen krijgen regelmatig opdrachten waarmee zij zich verdiepen in de verschillende werken, bestaand uit introductieopdrachten, een variatie aan schrijfopdrachten en presentaties. De assessments bestaan uit: essays, presentaties en schriftelijke examens. De eindexamens bestaan uit: een tekstanalyse (25%), een essay (25%), twee mondelinge presentaties (30%) en een vrije schrijfopdracht (20%).

German Literature A HL/SL (2 years)

Prerequisites: MYP German Language A 5 (or a recognised equivalent)

Students are exposed to a range of literary texts from different periods, styles and genres. SL-students study 10, HL-students 13 works. They also read literature in translation and through close, detailed analysis appreciate the different perspectives of people from other cultures. Students develop an understanding of the techniques involved in literary criticism, but they are also expected to present a creative task which is based on a certain book or film adaptation. The HL-students show an ability to examine and discuss in depth the effects of literary techniques and the connections between style and meaning. All students become aware of historical and philosophical contexts in which texts are written and received and learn to express ideas clearly and fluently in both written and oral communication. The HL-students demonstrate the ability to write a sustained and detailed literary commentary.

The final assessments comprise one interactive oral (15%), one presentation (15%) one written assignment of 1200-1500 words (30%) and two final examinations: Paper I (20%) which is a response to a previously unseen passage, and Paper II (25%) where students are required to write a formal essay comparing at least two works in response to one question.

School Supported Self-Taught Mother Tongue Literature A SL Prerequisites: Demonstration of adequate proficiency via entry assessment.

This is only for mother tongue users of an A language not taught at GESS. Course content consists of ten works of pre and post 1900 literature and covers the three major genres; prose, poetry and drama. Additional texts are referred to throughout the course. Six of these texts are studied in the student's native language, with the other 4 being studied as a class in English. A tutor in the student's mother tongue is required to help with the instruction and assessment. Students develop analytical reading and academic writing skills. A variety of literary concepts are taught with a view to expanding students' awareness of the literature's cultural impact. Regular assignments ensure students explore each work using a combination of journal, formal essay and oral presentation. Assessment comprises periodic class essays, presentations and formal examinations. Final assessment involves; two written examination essays (20% and 25%), two oral presentations (30%) and one written assignment essay (25%).

Second Language (IB Diploma Group 2)

English B- HL (2 years)

Prerequisites: Minimum MYP Language B phase 4 and 5 score of level 4 or above (or a recognised equivalent)

Students' language skills (speaking, listening, reading and writing) and intercultural understanding are developed through studying a range of written and spoken material. Students explore five topics: Communication and the Media, Global Issues, Social Relationships, Cultural Diversity and Health. Different text types relating to these issues, including editorials, articles, films, and TV documentaries are used to enhance students' language and interaction skills. Students also study three literary texts to help broaden their vocabulary and develop fluent reading skills. Students complete regular written and spoken assignments throughout the course. Final assessment is based on two written exams (50%), one written assignment (20%) and two oral assessments (30%).

German B- HL/SL (2 years)

Prerequisites: Minimum MYP Language acquisition phase 3 for SL students, phase 4 for HL students (or equivalent)

Students are exposed to a wide variety of written and spoken texts such as news articles, literary texts and films to enable them to acquire and develop cultural awareness in addition to the four primary language skills of listening, speaking, reading and writing in German. Course content includes the following topics: *Beziehungen, Freizeit, Ausbildung und Arbeitswelt, Kultur, Gesundheit und Klima, Medien, Wirtschaft, Verantwortung, Gleichberechtigung, Geschichte, Stereotypen, Kriminalität und Gewalt*. Students learn how to communicate according to specific audience and purpose by selecting appropriate language and format to present ideas convincingly and effectively. In addition, focus is on text coherence. Assignments are set in line with the final examination requirements. Final assessment comprises interactive and individual orals (30%), a written assignment in December of the second year (20%) and final examinations in reading comprehension (25%) and written production (25%). SL students have to complete one written task (250-400 words), while HL students have to complete two written tasks (250-400 words and a personal argument of 150-250 words) in 90 minutes.

French B HL/SL

Prerequisites: Minimum MYP Language B phase 4 (or a recognised equivalent)

Students are exposed to a wide variety of written and spoken texts such as news articles, literary texts and films to enable them to acquire and develop cultural awareness in addition to the four primary language skills of listening, speaking, reading and writing in French. Students learn how to communicate according to specific audience and purpose by selecting appropriate language and format to present ideas convincingly and effectively. Assignments are set in line with the final examination requirements. Final assessment comprises interactive and individual orals (30%), a written assignment (20%) and final examinations in text handling - reading and response – (25%) and written production (25%).

French Ab Initio / German Ab Initio (2 years)

Prerequisites: little or no previous experience of French/German, maximum MYP Language acquisition phase

Course content includes topics relevant to everyday life: The individual, education and work, town and services, food and drink, leisure and travel, health and emergencies, and environment. To enrich their language development students are exposed to a wide variety of written and spoken texts such as articles, interviews, advertisements, and brochures etc. Students focus on four key skills: Reading, speaking, listening, and writing in French/German. In addition to this, students also develop a cultural understanding of French-speaking/German-speaking countries. Regular assignments ensure that students develop all skill areas and reinforce vocabulary and grammar knowledge. Written tasks focus on effective communication and text coherence. Assessments include class essays, presentations, and formal examinations. Final assessment comprises of one individual oral (25%), a written assignment (20%) and final examinations in text handling (30%) and written productions (25% for two tasks, to be completed within 60 minutes).

Other Ab Initio (beginner) languages may be offered upon request. Please contact the Diploma Coordinator with any such a requests.

Individuals and Societies (IB Diploma Group 3)

Geography HL (2 years)

Geography is a contemporary, dynamic subject that is firmly grounded in the real world. It is uniquely relevant for our international students, providing them with an understanding of the rapidly changing world in which they are growing up, as well as the tools to be successful in it. The core theme investigates demographics, wealth, environmental sustainability and resource management. Two out of seven optional themes are selected by the teacher in grade 11 with one taught in grade 11 and the other in grade 12. The HL extension unit examines the implications and repercussions of increased global interactions for people and places. All geography students must complete an independent fieldwork study. Successful students are open-minded, with an interest in current affairs and matters of global significance. The final grade is made up of 80% examinations (three papers, one is for HL extension topics only) and 20% for a single fieldwork assessment.

Geography SL (2 years)

Geography is a contemporary, dynamic subject that is firmly grounded in the real world. It is uniquely relevant for our international students, providing them with an understanding of the rapidly changing world in which they are growing up, as well as the tools to be successful in it. The core theme investigates demographics, wealth, environmental sustainability and resource management. Two out of seven optional themes are selected by the teacher in grade 11 with one taught in grade 11 and the other in grade 12. All geography students must complete an independent fieldwork study. Successful students are open-minded, articulate and objective, with an interest in current affairs and matters of global significance. The final grade is made up of 80% examinations (two papers) and 20% for a single fieldwork assessment.

History HL (2 years)

Course content contains one prescribed source based topic, two twentieth-century world history topics and a study of 100 years of European history. Students also undertake an Internal Investigation. The guiding concepts are continuity and change, comparison and contrast. Key skills taught are source analysis, making judgments and placing them in a wider historical context. Students learn how to write in-depth, analytical essays showing a critical approach to, and an awareness of issues of causation, historical continuity and change. Regular assignments ensure students explore each topic using a combination of essay questions, source evaluation and presentations. Assessment comprises past paper essays and presentations. Final assessment involves internal investigation (20%), paper 1 (20%), paper 2 (25%) and paper 3 (35%).

History SL (2 years)

Course content contains one prescribed source based topic and two twentieth-century world history topics. Students also undertake an Internal Investigation. The guiding concepts are continuity and change, comparison and contrast. Key skills taught are source analysis, making judgments and placing them in a wider historical context. Students also learn how to write in-depth, analytical essays showing a critical approach to and an awareness of issues of causation, historical continuity and change. Regular assignments ensure the students explore each topic using a combination of essay questions, source evaluation and presentations. Assessment comprises of essays, past papers and presentations. Final assessment in G12 involves a source evaluation paper (30%), two essays on the core topics (45%) and an internal investigation (25%).

Economics HL (2 years)

Course content has four sections (microeconomics, macroeconomics, international economics and development economics) that are divided in twenty-four sub-sections of which some are HL only. Students develop graphical, analytical, interpreting and synthesizing skills. Students apply economic concepts in their explanations of market functions and policy consequences. Regular assignments are designed to explore each topic using a combination of past exam questions, presentations and analysis of current economic events. Assessment comprises of exams, quizzes, and essays that analyse current economic news. Final assessment includes three analytic essays written throughout the course, IA portfolio (20%), a long essay, Paper 1 (30%), three application questions, Paper 2 (30 %) and HL extension paper, Paper 3 (20%).

Economics SL (2 years)

Course content consists of four sections (microeconomics, macroeconomics, international economics and development economics) that are divided in twenty-two sub-sections. Students develop graphical, analytical, interpreting and synthesizing skills. Students apply economic concepts in their explanations of market functions and policy consequences. Regular assignments ensure students explore each topic using a combination of past exam questions, presentations, and analysis of current economic events. Assessment comprises of exams, quizzes, and essays that analyse current economic news. Final assessment includes three analytic essays written throughout the course, IA portfolio (20%), a long essay, Paper 1 (40%) and three application questions, Paper 2 (40%).

Sciences (IB Diploma Group 4)

For all Diploma Science courses, the following prerequisites are recommended as a minimum:

- Standard Level Diploma Sciences: MYP Science minimum overall grade 4.
- Higher Level Diploma Sciences: MYP Science minimum overall grade 5.
- Biology and Environmental Systems and Societies: minimum of two years GESS MYP English first language
- Physics SL and Chemistry HL: DP Maths SL (or HL) should be taken along side these courses
- Physics HL: DP Maths HL

Students who do not fulfil the above requirements may also be asked to meet with the subject teacher, Head of Science, and/or Diploma Programme Coordinator to discuss the suitability of their selection(s). The final determination for approval is on a case-by-case basis, considering the best needs of the student.

Biology HL (2 years)

The higher level Biology syllabus prepares those students who are planning to pursue Biology as a major focus of study at university. The course content consists of eleven core topics, one option and 60 hours of practical work including a Group Four Project. There are an additional 90 hours of teaching and learning required for higher level. Students must demonstrate, apply and articulate a wide range of detailed biological facts, concepts and techniques using the correct terminology. Consequently, a good memory for names, definitions and key phrases is important to be successful in this subject. HL Biology students need to be self motivated as there is an expectation of significant additional self-study, independent reading and completion of practice questions throughout the course. Biological investigations focus on the areas of personal engagement, exploration, analysis, evaluation, and communication. Assessment comprises laboratory reports, tests and formal examinations. Final assessment involves three examination papers (80%) and internally assessed laboratory work (20%). The examination comprises 40 multiple-choice questions, a data based question, several structured questions and two extended-response questions.

Biology SL (2 years)

The standard level Biology syllabus provides students with the basic fundamental concepts and skills. Course content includes six core topics, one option, and forty hours of practical work including a Group Four Project. Students must demonstrate, apply and articulate a wide range of detailed biological facts, concepts and techniques using the correct terminology. Successful answers to examination questions are concise with an emphasis on using the vocabulary learned. Communication of biological concepts also requires using visual representations such as diagrams and graphs. Biological investigations focus on the areas of personal engagement, exploration, analysis, evaluation, and communication. Regular assignments include review, note taking, practice questions and laboratory reports. Assessment comprises laboratory reports, tests and formal examinations. Final assessment involves thirty multiple-choice questions, a variety of structured questions and an essay (80%) and internally assessed laboratory work (20%).

Chemistry HL (2 years)

The chemistry higher level course includes the core topics outlined in the SL information in this handbook (please consult the SL information in addition to this HL information). The additional topics are all continuations of the SL Core topics and as such the HL chemistry curriculum offers an extended understanding of the same topics with more depth. HL students are required to complete an extra 20 hours of practical work in addition to the 40 hours that the SL complete. There is an additional 90 hours of teaching and learning required for a subject at the HL; in chemistry there is a significantly greater mathematical demand within the higher level strands. Students who pursue HL chemistry will need to have a solid understanding of how to use the periodic table to extract an understanding of atomic behavior and be confident with using a variety of mathematical formula and changing around the subject of an equation. A good memory for names, definitions and key phrases is essential for a student to be successful in this subject. HL chemistry students need to be self-motivated as there will be an expectation of additional self-study, independent reading and completion of practice questions throughout the course. The higher level chemistry exam papers have more questions and are longer in duration than the SL exam papers.

Chemistry SL (2 years)

The Chemistry standard level course content contains eleven core topics, one option (Medicinal Chemistry), and forty hours of practical work including a Group Four (Sciences) Project. The topics we cover build upon the knowledge gained during the science lessons in the middle school, so each topic should feel familiar at the start and we will then extend upon that basic knowledge and challenge student's current understanding. The lessons will have a balance between theoretical work and practical experimentation; however, students must keep in mind that the bias is towards theoretical chemistry in line with the higher weighting of the exams in the overall assessment. Experimental work is used to deepen understanding but the emphasis lies firmly with theoretical understanding. Within this course there is much scope for students to be successful if they have a systemic approach to learning and a good memory for definitions, equations and processes. In chemistry the ability to visualize abstract ideas and a good imagination can prove to be very useful. At the standard level the mathematical component is mostly requiring numeracy skills with division and multiplication, these are used in a variety of different contexts and students will need to remember a variety of formulas. Chemistry requires a balance of mathematical and linguistic skills, and in terms of exam writing style chemists need to be concise with an emphasis on using the correct terminology. In both SL and HL final assessment involves three examination papers (80%) and an individual investigation (20%). The final examination papers are comprised of multiple-choice questions, data based questions and several structured questions including extended response questions.

Physics HL (2 years)

The Physics higher level course content contains twelve core topics, one option, and sixty hours of practical work including a Group Four Project. Students demonstrate, apply, and use an understanding of physics facts, concepts and techniques. The Scientific Method is used in physics investigations with a focus on the areas of personal engagement, exploration, analysis, evaluation, and communication. Regular assignments include scientific research, practice questions, and laboratory investigations. Assessment comprises laboratory reports, tests and formal examinations. Final assessment involves three examination papers (80%) and an individual investigation (20%). The final examination comprises of multiple-choice questions, data based questions and structured short response questions.

Physics SL (2 years)

The Physics standard level course content contains eight core topics, one option and forty hours of practical work including a Group Four Project. Students demonstrate, apply, and use an understanding of physics facts, concepts, and techniques. The Scientific Method is used in physics investigations with a focus on the areas of personal engagement, exploration, analysis, evaluation, and communication. Regular assignments include scientific research, practice questions, and laboratory investigations. Assessment comprises laboratory work, tests, and formal examinations. Final assessment involves three examination papers (80%) and an individual investigation (20%). The final examination comprises of multiple-choice questions, data based questions and structured short response questions.

Design Technology HL (2 years)**Prerequisites: MYP Design, level 6 or equivalent**

The Design Technology higher level course consists of twelve core topics, a specialist HL topic, five internal practical assessments and a full design project of the students' own choice. Students work their way through topics using the Design Technology guide and a variety of DVDs, handouts and textbooks alongside practical applications in the form of the practical assessments. These skills can then be applied to any design or technological concept. Regular assignments and the practical assessments ensure students explore each topic and apply each concept appropriately. Assessment during the course comprises of exams, end of topic tests and practical internal assessments. Final assessment consists of 3 external examinations: Paper one short multiple choice questions (20%), Paper two conceptual questions (24%), Paper three, specialist topic (20%). Five practical internal assessments (18%) and a full Design project (18%).

IB Design Technology SL (2 years) Prerequisites: MYP Design, level 5 or equivalent

The SL Design Technology standard level course consists of seven core topics, a specialist HL topic, five internal practical assessments and a full design project of the students' own choice. Students work their way through topics using the Design Technology guide and a variety of DVDs, handouts and textbooks alongside practical applications in the form of the practical assessments. These skills can then be applied to any design or technological concept. Regular assignments and the practical assessments ensure students explore each topic and apply each concept appropriately. Assessment during the course comprises of exams, end of topic tests and practical internal assessments. Final assessment consists of 3 external examinations: Paper one short multiple choice questions (20%), Paper two conceptual questions (24%), Paper three, specialist topic (20%). Five practical internal assessments (18%) and a full Design project (18%).

Environmental Systems and Societies* SL (2 years) Prerequisites: MYP Science and Humanities level 4 or above

This trans-disciplinary course is a hybrid of biology and geography topics and skills. Students will use scientific reasoning and theoretical underpinnings to understand the interaction of humans with the natural world. A systems approach is used to analyse the complex relationship human beings have with their environment and to understand better the causes of such environmental issues as climate change, population growth, habitat destruction, and resource consumption. Uncovering how people perceive the environment is a key theme throughout the course in order for students to realize the difficulty in finding a consensus of solutions to our man-made problems. Analysis of current events, documentary films, and selected additional readings supplement the course syllabus and make for meaningful class discussions. Students must demonstrate, apply and articulate a wide range of facts, concepts and techniques using

the correct terminology. Successful answers to examination questions are concise with an emphasis on using the vocabulary learned. Students perform simulations and ecology-based experiments in order to accumulate the 30 hours of requirement practical work that employs the use of the Scientific Method. Students are assessed on one internally assessed, individual investigation (20%) and on two external examination papers (worth 80

Sports, Exercise and Health Science (2 years)

SEHS is a classroom based course preparing students for exercise, health and wellness related jobs. It traditionally attracts students interested in Physical education, Coaching science, Physiotherapy, Public health, Applied sports science as well as the developing Wellness movement. This discipline can also effectively complement other science subjects.

The course incorporates the disciplines of anatomy and physiology, biomechanics, psychology and nutrition, which are studied in the context of sports, exercise and health. Standard Level (SL) students will cover six core and two option topics and carry out practical (experimental) investigations in both laboratory and field settings. Higher Level (HL) students will study a further 7 topics with 4 more sub topics in the options. This will provide an opportunity to acquire the knowledge and understanding necessary to apply scientific principles and critically analyse human performance. Where relevant, the course will address issues of international dimension and ethics by considering sport, exercise and health relative to the individual and in a global context. At SL and HL the final assessment is based on three examinations (80%) and course and practical work (20%). Practical work consists of 40 hours of investigation with students being assessed on design, data collection and processing, manipulative and personal skills and conclusion and evaluation. The internal assessment is based upon practical experimental investigations and not physical performance. This course suits students who like to apply science to sport.

***Note: Some universities may not recognise Environmental Systems and Societies as a traditional science, which may affect university entrance requirements. It is the individual student's responsibility to ensure the course is acceptable to chosen universities before June of grade 10.**

Mathematics (IB Diploma Group 5)

Individual students have different needs, interests and abilities. There are three different courses in mathematics offered at GESS. These courses are designed for 3 types of students: Those who wish to study mathematics in depth, either as a subject in its own right or to pursue their interests in areas related to mathematics; those who wish to gain a degree of understanding and competence to better understand their approach to other subjects; and those who may not as yet be aware how mathematics may be relevant in their future studies and daily lives. Each course is designed to meet the needs of each of these students. Therefore, great care should be taken to select the course that is most appropriate for an individual student. In making mathematics course selections, individual students are advised to take account of the following factors:

- Abilities in mathematics and the type of mathematics in which they can be successful.
- Interest in mathematics, and particularly those areas of the subject that may hold the most interest.
- Other subject choices in the programmes at GESS.
- Academic plans, in particular the subject(s) they wish to study in future.
- Potential career paths.

Mathematics Higher Level HL (2 years)

Prerequisites Maths Extended level 6

The course content consists of six core topics, one option and a mathematical exploration. The problem solving in this course involves the acquisition of mathematical concepts and skills in a wide range of situations, including non-routine, open-ended and real-world problems. Students apply their mathematical knowledge to solve problems set in a variety of meaningful contexts. The mathematical Exploration is a piece of written work that involves investigating an area of mathematics and offers students the opportunity for developing independence in their mathematical learning. Regular assignments include problem solving and investigations, with an emphasis on mathematical inquiry, mathematical modeling and application. Assessment comprises of tests and formal examinations. Final assessment consists of formal examination comprising of two papers on the core topics and one paper on the option topic (80%) and an internally assessed mathematical Exploration (20%).

Mathematics Standard Level SL (2 years)

Prerequisites Maths Extended level 5 or above/ Maths Core level 6 and above

The course content consists of six topics and the mathematical Exploration (10 hours), a piece of written work that involves students investigating an area of mathematics. Problem solving is central to learning mathematics and involves students using and applying mathematical concepts and skills to solve problems in both real and abstract situations. Other skills demonstrated by students are communication and interpretation, reasoning, inquiry and technological skills. Regular assignments include problem solving and investigations, with an emphasis on mathematical inquiry, mathematical modeling and application. Assessment comprises of quizzes, tests and formal examinations. Final assessment comprises of the mathematical Exploration (20%) and a formal external examination comprising of two papers (80%), Paper 1 (non-calculator) and Paper 2 (Graphic Display Calculator is required).

Handbook of Studies



Mathematical Studies SL (2 years)

This course content caters to students with varied backgrounds and abilities. It offers students opportunities to learn important concepts and techniques and to gain an understanding of a wide variety of mathematical topics. The focus is on the following: student understanding of fundamental mathematical concepts rather than symbolic manipulation and complex manipulations; giving greater emphasis to developing students' mathematical reasoning skills rather than performing routine operations. To this end, assignments incorporate solving mathematical problems embedded in a wide range of contexts and using the graphic calculator effectively. Assessment comprises quizzes, tests, and a formal examination, comprising of two papers (80 % of the final mark). The other formal assessment (20% of the final mark) is a mathematical investigation project based on the students' own research.

Arts and Electives (IB Diploma Group 6)

Visual Arts HL/SL (2 years)

Prerequisites: Minimum MYP Visual Art

The IB Diploma Programme visual arts course encourages students to challenge their own creative and cultural expectations and boundaries. It is a thought-provoking course in which students develop analytical skills in problem-solving and divergent thinking, while working towards technical proficiency and confidence as art-makers. In addition to exploring and comparing visual arts from different perspectives and in different contexts, students are expected to engage in, experiment with and critically reflect upon a wide range of contemporary practices and media. The course is designed for students who want to go on to study visual arts in higher education as well as for those who are seeking lifelong enrichment through visual arts.

Assessment is comprised of a *Comparative Study* (20%), a *Process Portfolio* (40%), and an *Exhibition* of self-selected works (40%). HL students need to submit a greater quantity and range of work across the assessment areas.

Elective (2 years) HL or SL

As an alternative to pursuing Arts, students may opt to study a third language or a second science or humanities subject. This is subject to course availability.

Appendices

1. Contacts

Ms. Valerie Cattez	Diploma Programme Coordinator (G11 and 12)	valerie.cattez@gess.sg
Mr. Tom Walton	University Guidance and Careers Counsellor	thomas.walton@gess.sg
Mr. Richard Kent	Middle Years Coordinator (G6 to 10)	richard.kent@gess.sg
Mr. Rebecca Scrivener	Head of Secondary School	rebecca.scrivener@gess.sg

2. GESS language selection guidance

In both high school programmes we require students to study English and at least one other language. To gain the most from their time in international education it is essential that students make the correct first and second language selections for completion of their IB or GESS diploma. This requires balancing possible uses of the target languages after high school, having valid and meaningful educational challenges and considering which languages may provide the highest levels of success in the IB courses. Furthermore, IB Diploma students must avoid any language combinations that might jeopardise full IB Diploma status or recognition by target universities. (Details of German national tertiary requirements are available from the Diploma Coordinator on request).

With the exception of language ab initio (foundation level), all selections require either the approval of the relevant GESS language department or recognised proof of former study. The following suggestions act only as a guide and are by no means intended to be definitive.

First Language

At GESS you should study IB German Literature A higher level if:

- ✓ You have a minimum of six years formal teaching in the target language and use it on a regular basis beyond the classroom;
- ✓ You have a native level of speaking, listening, reading and writing;
- ✓ You are committed to maintaining and developing your bilingual status in the target language;
- ✓ You are intending to use the target language for academic purposes in literature, humanities or languages.

This subject will provide a bilingual IB Diploma.

At GESS you should study IB English or Dutch Language and Literature A higher level if:

- ✓ You have a minimum of 5 years experience of the target language and use it on a regular basis beyond the classroom;
- ✓ You have a native level of speaking and listening and bilingual levels of reading and writing;
- ✓ You are committed to maintaining and developing your bilingual status in the target language.

As a non-native speaker it is advised you study at this level as the optimum if you are planning to use the target language for academic purposes.

This subject will provide a bilingual IB Diploma.

At GESS you should study IB German Literature A standard level if:

- ✓ You have a minimum of six years formal teaching in the target language and use it on a regular basis beyond the classroom;
- ✓ You have a native level of speaking and listening and excellent bilingual levels of reading and writing;
- ✓ You are committed to maintaining and developing your bilingual status in the target language;
- ✓ You are intending to use the target language for academic purposes in a language rich study.

This subject will provide a bilingual IB Diploma.

At GESS you should study IB English or Dutch Language and Literature A standard level if:

- ✓ You have a minimum of 5 years experience of the target language and use it on a regular basis beyond the classroom;
- ✓ You have a native level of speaking and listening and bilingual levels of reading and writing;
- ✓ You are committed to maintaining and developing your bilingual status in the target language.

As a non-native speaker it is advised you study at this level as a minimum if you are intending to use the target language for academic purposes.

This subject will provide a bilingual IB Diploma.

At GESS you should study IB school supported self-taught Literature A standard level if:

- ✓ It is your mother tongue and not available as a taught subject at GESS;
- ✓ You are committed to maintaining and developing your bilingual status in the target language;
- ✓ You are planning to use the target language for academic purposes in a country where it has first language status;
- ✓ You are studying English A1 Language & Literature as well.

NOTE

- IB students **cannot** complete their Extended Essays in a self-taught language. All students wishing to select this option **MUST** liaise with the Diploma Coordinator to design your course and arrange for appropriate supervision.
- Acceptance on to this course requires the applicant to pass a mother tongue language assessment.

This subject will provide a bilingual IB Diploma.

Second Language

At GESS you will study a IB language B at higher level if:

- ✓ You have more than four years experience of the target language (and approval from the relevant language department);
- ✓ You intend using the language beyond the Diploma Programme for non-academic purposes.

This subject will not provide a bilingual IB Diploma.

At GESS you will study an IB language B at standard level if:

- ✓ You have more than two years formal tuition in the target language (and approval from the relevant language department);
- ✓ You do intend using the language beyond the Diploma Programme for non-academic purposes.

This subject will not provide a bilingual IB Diploma.

At GESS you will study an IB Language ab initio language if:

- ✓ You have either no academic experience of the target language or less than two years formal tuition (and approval from the relevant language department).

This subject will not provide a bilingual IB Diploma.

3. Ten secrets to success in GESS high school!

1. Begin the guidance and course selection process as early into Grade 10 as you can (Grade 9 if possible).
2. Gather as much information as possible before choosing the most appropriate diploma programme.
3. Carefully consider your future beyond GESS before you make your Grade 11 subject selections.
4. Speak to as many current G11 and 12 students as you can.
5. Continually liaise with the relevant programme coordinators (Ms. Cattez and Mr. Kent).
6. Remember to keep *everyone* up to date with your plans for the future.
7. Show a commitment to working at the highest personal level from the first day of Grade 11.
8. Display self-discipline in your whole approach to the final grades.
9. Show a willingness to develop the emotional and intellectual maturity necessary for study at this level.
10. Be prepared to take leadership roles in the community.

4. Overview of university requirements in Germany and the Netherlands

Dutch and German universities attach their own requirements to the IB Diploma. The universities wish to ensure that students with the IB Diploma qualification have studied at a level that they regard as equivalent to their own high school leaving certificate – The German Abitur and the Dutch HAVO.

Netherlands

- If the course is in Dutch, students will have to take Dutch language A (SL OR HL) or Language B HL.
- All students should take Maths at a minimum of Standard level*
- Higher level Maths is required for any technical courses and some Business/Economics courses
- Students who wish to study medicine, must take all three traditional sciences. Students need to check the university website to check the levels.
- They must have a minimum of grade 4 in each subject

*Some universities in Holland will waive the SL Maths requirement but this is at the discretion of the individual university and only for 'arts' or social science based courses such as History or Literature.

Handbook of Studies



Germany

Students wishing to enter a German university should take:

- Maths at a minimum of standard level (Mathematical Studies is not acceptable)
- The Group 4 subject must be a traditional science (Biology, Chemistry or Physics)
- The Group 3 subject must be History, Geography, Economics, Psychology or Business Management)
- They must have a minimum of grade 4 in every subject. One grade 3 will be accepted IF they have 5 in another subject.
- They must study either Maths or a science at higher Level
- They must take at least one language at A level and another at least at B Higher Level

5. Timeline for the for Diploma courses selection process as of January 2016:

15 th January G10	1) Hand in of round 1 forms. 2) Pamoja advice session for interested students	1) Diploma Coordinator 2) Site-Based Coordinator
April G10	1) Release of the Statement of Recommendation (SoR) showing which HL and SL choices would be best for each student. 2) A Pamoja information session for parents	G10 subject teachers
May G10	1) Conferences with individual students with issues in their SoRs.	1) Diploma Coordinator
June G10	Conferences with individual students with issues in their SoRs and the release of the Letters of Admittance in final G10 report card	Diploma Coordinator

6. IB Diploma failing conditions

1. CAS requirements have not been met.
2. Candidate's total points are fewer than 24.
3. An N has been given for theory of knowledge, extended essay or for a contributing subject.
4. A grade E has been awarded for one or both of theory of knowledge and the extended essay.
5. There is a grade 1 awarded in a subject/level.
6. Grade 2 has been awarded three or more times (HL or SL).
7. Grade 3 or below has been awarded four or more times (HL or SL).
8. Candidate has gained fewer than 12 points on HL subjects (for candidates who register for four HL subjects, the three highest grades count).
9. Candidate has gained fewer than 9 points on SL subjects (candidates who register for two SL subjects must gain at least 5 points at SL).