

# **LEAF ACADEMY**

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**2020-2021**

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## GENERAL GUIDELINES

### Requirements for AP Scholar Awards

In addition to the LEAF Academy Diploma, a student may also earn one of the AP Scholar Awards awarded by the College Board:

In order to receive the **AP International Diploma** from the College Board, a student must:

- Select their additional credits from among the AP Diploma eligible courses as follows:
  - 1 credit in Mathematics or Natural Sciences
  - 1 credit in a Global Perspective courses
  - 1 credit in a foreign language (English Language and Composition or a World Language)
  - 2 additional credits from any eligible AP Diploma course
- Take the AP exams and earn a grade of 3, 4, or 5 in all AP Diploma eligible courses
- **Submit a letter** from a school administrator **verifying the student's mastery of a language** that there is currently no AP Exam available for. This verification, printed on school letterhead, will satisfy the requirement for one AP Exam in the language category. If that is not possible, an additional world language AP exam must be taken. If a student's national language is not taught at the Academy, and a student has not taken a national language in his/her home country, a student needs to pass an exam in his/her national language arranged by LEAF Academy in Y4 in order to receive this confirmation.

**Please note:** AP Scholar Award is not a substitution for a high school diploma.

### Requirements for AP Capstone Diploma

In order to receive the AP Capstone Diploma from the College Board, a student must select their course levels and additional credits as follows:

- Select the AP Seminar in year 3
- Select the AP Research course in year 4
- Select 4 additional AP courses (for university purposes AP English Language and Composition is recommended<sup>1</sup>)
- Take the AP exams and earn a grade of 3, 4, or 5 in AP Seminar, AP Research, and the 4 additional AP courses of your choosing.

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<sup>1</sup> Some universities may not recognize AP Art History/Studio Art 2D Design, AP Seminar and AP Research as regular academic courses, please consider taking additional AP classes if you have chosen these courses. For more information consult University Counsellor.

## CHARACTER DEVELOPMENT

### CHARACTER SEMINAR

**Course Title:** Character Seminar

**Course length:** 2 years (Year 3-4)/4 years (Year 1- 4)

**Credit:** ½ credit per year

**Department:** Character department

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#### **Course description:**

The Character Seminar focuses on building students' self-awareness and aiming to develop them as well-rounded, value-driven humans who appreciate diversity and respect others. The course emphasizes social-emotional learning through experiential activities, discussion, and individual or group reflection and feedback, students will seek answers to fundamental questions such as: Who am I and what are my greatest strengths? How can I use my strengths to grow? What do I value and how do I make choices? How do I work with others and how can I have a positive impact on them?

Character Seminar helps students to develop essential life competencies such as communication skills, working with others, setting and working towards goals, managing stress, and maintaining physical and mental wellbeing.

Through a four-year program, the topics follow the natural student life-cycle. In the first two years, the students explore their identity in the context of a new community, then delve into the introspection of their personality, strengths, motivations, and values. In the final two years, students examine their place as individuals in society and explore their opportunities to impact the world around them. The program finishes with a final project, the LEAF Thesis, aimed at looking back at one's journey so far and identifying one's own mission in life to follow.

The character development seminar is supported by multi-day adventure education programs offered each year. These experiences provide students with the opportunity to apply and practice the themes and concepts covered during the seminars in real situations.

#### **Character Seminar: Year 1**

The first year is dedicated to laying the foundations where the students focus on belonging and transitioning. The seminar in this first year is dedicated to setting the tone, supporting students in navigating a new environment, and finding their place in the community. The topics covered include group dynamics, relationships, and roles in peer groups. Seminars are designed to also help the students develop a growth mindset, identify strengths, and improve learning and time management strategies. Particular focus is placed on learning to use feedback as an effective tool for growth.

#### **Character Seminar: Year 2**

The second-year seminar focuses on practical experiences designed to foster further self-discovery. In the first term, students set and begin work towards a clearly defined self-development goal. They evaluate their progress periodically throughout the year. The second half of the year is dedicated to exploring themes such as humility, habit building, resilience, comfort zone, and self-regulation. Students are introduced to current scientific concepts, tests focused on capturing character strengths and the

seminar guides them in connecting self-reflection with self-care and well-being. They also practice different methods of reflection using art, discussion, and writing.

The Year 2 experiential program, in the form of a multi-day self-supported backpacking journey is designed to test students' personal limitations and support them in developing humility and resilience, while also reinforcing healthy confidence in their own abilities.

### **Character Seminar: Year 3**

The year 3 seminar is designed to create a space for students to further explore their strengths, values, and passions in the context of their personal lives, leadership qualities, and future professional path. The seminar encourages students to think more intentionally about their future and the impact they want to have on the world. Students are also asked to look back at their life journey and growth, examine how significant life moments have shaped their world view and values. This process aims to contribute to formulating and strengthening their identity.

Over the year students are guided toward building awareness of internal and external expectations and explore how these influences may motivate their behavior and choices. Seminars also offer an opportunity for the students to tap into their emotional world, exploring topics of vulnerability and insecurities, failure and success and nonviolent communication.

As part of the experiential element, the students engage in in-class interactive activities, individual self-reflection time and creative projects as well as a multi-day outdoor journey fostering a sense of responsibility, leadership, and inter and intrapersonal connections.

### **Character Seminar: Year 4**

The last year of the character seminars support the students in reflecting on their growth, their transition to life and their potential as leaders and contributing members of society.

In the first term, students explore their understanding of leadership and how they identify with a leadership role. Through a series of case studies, students continue to explore real-world ethical dilemmas tied to leadership and decision-making and wrestle with important questions such as "what helps me to navigate when I need to make difficult decisions?" and "how do I apply what I've learned to inspire and effect change? In the second semester, students continue to explore the theme of transition and connection to the world. Addressing questions such as "Where am I heading? Who can I be in the future? What is that I care about and what is my personal mission? How do I stay true to myself and navigate major transitions?"

As a culmination of their journey of self-discovery and character development, each student works to prepare a final project that summarizes their path at LEAF Academy, reflects on their personal growth and their future direction. Students spend the last term preparing their LEAF thesis and present it to their peers and LEAF Academy staff in the final weeks of school.

## CENTRAL EUROPEAN STUDIES

### AP® COMPARATIVE GOVERNMENT AND POLITICS

**Course title:** AP Comparative Government and Politics

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** CES

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**Course description:**

AP Comparative Government and Politics will provide students with the conceptual tools necessary to develop an understanding of some of the world's diverse political structures and practices, focusing on six AP comparative politics countries: Great Britain, Russia, China, Iran, Mexico, Nigeria.

The first part of the course will focus on learning the basics of comparative politics and theory behind political institutions, focusing on the key concepts of Sovereignty, Authority, Power, State, Nation, Political culture, Societal cleavages, Political participation, Government Institutions, Branches of Government, Parties, Bureaucracy.

The second part of the course will cover the 6 AP case studies. Taking a comparative, cross-country approach, we will examine, compare and contrast the countries' formal and informal political institutions, paying particular attention to topics of continuity and change, public policy, political economy, authoritarianism, democratization, economic development and political violence.

### AP® ENGLISH LANGUAGE AND COMPOSITION

**Course title:** AP English Language and Composition

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** CES

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**Course description:** An AP English Language and Composition course requires students to become skilled readers of prose written in a variety of rhetorical contexts and skilled writers who compose for a variety of purposes. Both their reading and their writing should make students aware of the interactions among a writer's purposes, reader expectations, and an author's propositional content, as well as the genre conventions and the resources of language that contribute to effectiveness in writing.

At the heart of an AP English Language and Composition course is the reading of various texts. Reading facilitates informed citizenship and thus increases students' capacity to enter into consequential conversations with others about meaningful issues. Also contributing to students' informed citizenship is their ability to gather source materials representing particular conversations and then make their own reasonable and informed contributions to those conversations. Students' ability to engage with outside sources in their reading, writing, and research is an important measure of their intellectual growth.

While writing represents a significant component of this course, the core skill required is the ability to read well. In reading another writer's work, students must be able to address four fundamental questions about composition:

- ▶ **What is being said?**
- ▶ **To whom is it being said?**
- ▶ **How is it being said?**
- ▶ **Why is it being said?**

The answers to these questions inform students' own composition processes as they learn to read like writers and write like readers.

## **AP® EUROPEAN HISTORY**

**Course title:** AP European History

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** CES

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### **Course description:**

European History is designed to be the equivalent of a two-semester introductory college or university European history course and is taught to the AP standards. In this course, students will gain a range of historians' analytical skills as well as a broad understanding of European history. Students investigate significant events, individuals, developments, and processes in four historical periods from approximately 1450 to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical comparisons; and utilizing reasoning about contextualization, causation, and continuity and change over time. The course also provides six themes that students explore throughout the course in order to make connections among historical developments in different times and places: interaction of Europe and the world; economic and commercial developments; cultural and intellectual developments; states and other institutions of power; social organization and development, national and European identity; technological and scientific innovation.

## **AP® FRENCH LANGUAGE AND CULTURE**

**Course title:** AP French Language and Culture

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** CES

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**Course description:** The AP French course has been devised to "fine tune" the students' reading, listening, interactive and productive skills both in written and presentational rendering. The studies revolve around six topical and cultural themes: Families in Different Societies, The Influence of Language and Culture on Identity, Influences of Beauty and Art, How Science and Technology Affect our Lives, Factors that impact Quality of Life, Environmental, Political and Societal Challenges. The course guides the students to explore culture and events mainly in contemporary and historical settings in order to examine products and practices of the target culture. The students should become

aware of the complexity of the topics offered and gain fluency and accuracy of their expressions in order to feel confident to take the AP French exams.

This course is intended for students who have already studied the selected language for several years, and will prepare students for an AP language and culture exam.

## **AP® GERMAN LANGUAGE AND CULTURE**

**Course title:** AP German Language and Culture

**Course length:** Year Long (Y3 and Y4)

**Credit:** 1

**Department:** CES

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**Course description:** This course helps students to improve their foreign language communication skills in real-life situations. We will practice vocabulary usage, language control, communication strategies, and cultural awareness. We will also explore the selected foreign culture in both contemporary and historical contexts. We will look at and learn to appreciate various cultural products such as tools, books, or music, but also the way culture influences more complex areas like laws, conventions, or institutions. We will familiarize ourselves with the patterns and modes of social interactions, and learn to understand the culture's perspectives in its values, attitudes, and assumptions.

There are six broad themes in which they will be able to use knowledge and understanding gained in their other courses: Families in Different Societies, The influence of Language and Culture on Identity, Influences of Beauty and Art, How Science and Technology Affect our Lives, Factors that impact Quality of Life, Environmental, Political and Societal Challenges.

This course is intended for students who have already studied the selected language for several years, and will prepare students for an AP language and culture exam. Depending on student interest, the course may be taught on site, or covered through alternative means such as an online course, or external instructors etc.

## **AP® HUMAN GEOGRAPHY**

**Course title:** AP Human Geography

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** CES

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**Course description:** AP Human Geography is a year long course designed to meet or exceed the experience of an introductory one-semester college human geography course. The purpose of the course is to utilize geographic processes to systematically study and understand spatial patterns that are evident in the world. The course introduces students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of Earth's surface. Students employ spatial concepts and landscape analysis to examine socio-economic organization and its environmental consequences. They also learn about the methods and tools geographers use in their research and applications. Case studies from around the globe are compared to the situation both in Central Europe and locally.

## **PRINCIPLES OF ECONOMICS (AP<sup>®</sup> MICRO/MACROECONOMICS)**

**Course title:** Principles of Economics (AP Micro/Macroeconomics)

**Course length:** Year Long

**Credit:** 1

**Department:** CES

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**Course description:** In this course, we will explore basic economic concepts and apply them to seek an understanding of our economic system. We will begin by asking how individuals and firms make decisions, and how their decisions affect the market for goods and services. We will then look at instances where markets fail, and consider the role governments, banks, and regulators can play in the economy. Finally, we will analyze why and how countries trade with each other and what is there to gain from international trade.

In individual and team projects, we will use our analytical skills and understanding of economic concepts to explore seemingly irrational individual behavior, learn more about the inner workings of the financial sector, or try to predict the economic growth of our country,

Students wishing to take an exam in AP Microeconomics may need to do additional individual work in learning the theory and analytical frameworks describing firm behavior.

## **AP<sup>®</sup> PSYCHOLOGY**

**Course title:** AP Psychology

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** CES

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**Course description:** The purpose of the AP Psychology course, in general, is to introduce students to the systematic and scientific study of what is in the background of human mental processes and behavior. Students are introduced to the basis of the psychological knowledge needed to enter the world of psychological science. They will learn about important principles, phenomena, and research associated with each of the major subfields within psychology. They also learn about the ethics and methods psychologists use in their scientific practice.

The specific curriculum of AP Psychology is divided into 13 smaller units ranging from the biological background of the human mind and behavior including basics of neuroanatomy and sensation through the introduction of cognitive processes as well as emotional and motivational drives to the treatment of mental disabilities and applied research represented in important social psychology studies. Still, this is just an excerpt from the wide range of topics involved in the course.

## AP® SEMINAR

**Course title:** AP Seminar

**Course length:** 1 academic year

**Credit:** 1

**Department:** CES

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### **Course description:**

AP Seminar is a foundational course that engages students in cross-curricular conversations that explore the complexities of academic and real-world topics and issues by analyzing divergent perspectives. Using an inquiry framework, students practice reading and analyzing articles, research studies, and foundational, literary, and philosophical texts; listening to and viewing speeches, broadcasts, and personal accounts; and experiencing artistic works and performances. Students learn to synthesize information from multiple sources, develop their own perspectives in research-based written essays, and design and deliver oral and visual presentations, both individually and as part of a team. Ultimately, the course aims to equip students with the power to analyze and evaluate information with accuracy and precision in order to craft and communicate evidence-based arguments.

### **Goals**

The goals of the AP Seminar course include:

- Engage students with rigorous college-level curricula focused on the core academic skills necessary for successful college completion.
- Extend students' abilities to synthesize information from multiple perspectives and apply skills in cross curricular contexts and in new situations.
- Empower students to collect and analyze information with accuracy and precision.
- Cultivate students' abilities to craft, communicate, and defend evidence-based arguments.
- Provide opportunities for students to practice disciplined and scholarly research skills applied to relevant topics of their interest and curiosity.

## AP® RESEARCH

**Course title:** AP Research

**Course length:** 1 academic year

**Credit:** 1

**Department:** CES

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### **Course description:**

The AP Research course operates as year two of the AP Capstone program. Having learned how to enter the academic conversation in AP Seminar, this year, you will learn how to begin that conversation. You will deeply explore an academic topic, problem, issue, or idea of your choice by first locating a gap in the existing scholarship and formulating your research question, and subsequently designing, planning and implementing a year-long investigation to address this research question. Through this inquiry, you will further the skills you acquired in the AP Seminar course by learning research methodology, employing

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ethical research practices, and collecting, analyzing and synthesizing information. Throughout the year, you will reflect on and document your progress, skill development and communication with your teacher and expert advisors using a process and reflection portfolio (PREP). The course culminates in an academic paper of 4000–5000 words (accompanied by a performance or exhibition of product where applicable) and a presentation with an oral defense to a panel.

AP Research is not tied to a specific content area, rather it emphasizes and strives for competency in core academic skills. You will gain Essential Knowledge and develop and apply discrete skills identified in the Learning Objectives of the Enduring Understandings within the five big ideas represented by the acronym QUEST introduced in the prerequisite AP Seminar course:

- *Question and Explore*: Read critically; pose questions and identify issues that compel you to want to explore further.
- *Understand and Analyze*: Use specific tools – such as re-reading, questioning in the text, and considering multiple perspectives – to break down an idea or argument into parts that make sense to you.
- *Evaluate Multiple Perspectives*: Identify a variety of perspectives, viewpoints, and/or arguments of an issue and consider any bias to determine the validity of that point of view.
- *Synthesize Ideas*: Create new perspectives after evaluating other varying perspectives and establishing a unique position or claim using a variety of resources designed for a specific audience.
- *Team, Transform, and Transmit*: Communicate the message clearly and effectively to your audience.

## AP<sup>®</sup> 2-D ART AND DESIGN

**Course title:** AP 2-D Art and Design

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** CES

### Course description:

The AP 2-D Art and Design course is designed for students who are seriously interested in the practical experience of art. Students will develop a quality portfolio that demonstrates a mastery of concept, composition and execution in 2D design. This course is based on a student creating a body of work that demonstrates quality, concentration and breadth. The course will meet for a full year. As in any college level course students will be expected to spend a considerable amount of time outside of class in order to complete assignments and doing homework and sketchbook assignments. The course starts with theoretical presentations and interactive activities focused on design elements & principles and afterwards on creating strong individual art portfolios. Students will have flexibility in the choice of medium and focus (any two-dimensional medium or process, including, but not limited to, graphic design, digital imaging, photography, collage, fabric design, fashion design, fashion illustration, painting and printmaking...).

The AP Studio Art portfolio is divided into two sections:

- **Selected Works** section is composed of works of the highest quality that demonstrate your mastery of design in concept, composition, and execution. Works may come from the Sustained

Investigation section, but they do not have to. They may be a group of related works, unrelated works, or a combination of related and unrelated works. (**5 actual works**)

For each work, students will have to describe in writing: own ideas, used materials and process.

- **Sustained Investigation** section requires students to develop a body of work consisting of a series of images, that are unified by an underlying idea that is visually coherent. (**15 digital images**).

Students will have to document in writing: the questions that guided their sustained investigation and how their sustained investigation shows evidence of practice, experimentation, and revision guided by their questions.

The course includes visiting galleries or art institutions in order to increase the aesthetic intelligence and help with appreciation and understanding of art .

## **AP® ART HISTORY - *Is not opened in 2020/2021 school year***

**Course title:** AP Art History

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** CES

### **Course description:**

The AP Art History course explores such topics as the nature of art, its uses, its meanings, art making, and responses to art. Through investigation of diverse artistic traditions of cultures from prehistory to the present, the course fosters in-depth and holistic understanding of the history of art from a global perspective. Students learn and apply skills of visual, contextual, and comparative analysis to engage with a variety of art forms, constructing understanding of individual works and interconnections of art-making processes and products throughout history. They consider influential forces like patronage, politics, class, belief, gender, and ethnicity in their analysis of art forms.

Main **8 Art Historical Thinking Skills** students will learn: Visual Analysis, Contextual Analysis, Comparison of Works of Art, Artistic Traditions, Visual Analysis of Unknown Works, Attribution of Unknown Works, Art Historical Interpretations, Argumentation

**5 Big Ideas:** Culture, Interactions with other Cultures, Theories and Interpretations, Materials - Processes - Techniques, Purpose and Audience

There are no prerequisites for AP Art History. Students who have been successful in humanities courses, such as history and literature, or in art and design courses are especially encouraged to enroll since those experiences will likely support and enrich the context of the art history course.

## **LEAF CORE Central European Studies**

**Course title:** LEAF Core: Central European Studies (CES)

**Course length:** Semester Long (Year 3)

**Credit:** 1/2

**Department:** CES

### **Course description:**

LEAF core (CES) is a 1-semester long interdisciplinary course in which students apply multiple perspectives and tools borrowed from various social science disciplines to explore and analyze selected

contemporary social problems in Central Europe and propose practical solutions to them. In the 2020/21 academic year, we will explore two issues: the rise of extremism in Central Europe (Unit 1) and leadership in Central Europe (Unit 2). After gaining a broad background knowledge in a given issue area through readings, class discussions, guest lectures, online research, etc., students will choose a research question which they will work on individually and/or in groups for the remainder of the unit. They will then present and discuss the results of their individual and/or group research in class. In doing so, they will focus on developing the essential skills of critical thinking, analysis, decision-making and collaboration, all of which will be essential for their success as citizens and future leaders of this region. They will also practice communicating the results of their work to diverse audiences.

## **CENTRAL EUROPEAN STUDIES**

### **Central European Studies: Year 1**

**Course title:** Central European Studies Year 1

**Course length:** Year Long (Year 1)

**Credit:** 2

**Department:** CES

#### **Course description:**

Central European Studies is a program consisting of two modules: History & Social Studies (HSS), and Writing & Rhetorics (WR). It centres on inquiry and insight into the behaviours, beliefs, motivations, and functions of individual humans, human society, and states, which are essential understandings for engaged citizenship and transformative leadership. CE Studies cultivates students' ability to seek out, ask, and answer meaningful questions and to communicate their ideas with accuracy and impact. While developing students as global thinkers, the programme facilitates students' foundational exploration of the complexities, contexts, challenges, and opportunities that exist in Central Europe and how these intersect with students' own experiences and interests.

In the first year of the Compulsory Central European Studies History Programme, students will cover the following three units – Early Modern History, The Long 19th Century, and the WWI and the World It Created.

In the second year, students will cover the following three units: WWII and the Holocaust, Rise, and Fall of Communism and Beyond 1989: The World of Tomorrow.

In each unit, students will use various case studies from both history and literature to gain basic insights into the political, sociological, ethical and philosophical lenses of history. Students' study will shift from a zoom-in on the Central European region to a zoom-out on the larger global perspectives. Students will continually practice critical thinking and reading skills that empower them to effectively craft questions, conduct research, and communicate their ideas verbally and in writing.

The CES Year One History module will be taught in parallel with Writing & Rhetorics. The latter is an inquiry-based course (meaning lots of questions) that aims to engage students in conversations that explore real-world topics through a historical lens and from multiple perspectives. This course will continue into Year Two and, at the end of your two years, you will have the reading and writing tools to

develop a group and individual research question; search for, collect, and analyze information, so that you can build and communicate evidence-based arguments effectively.

The goals of CES Course include:

- ★ Provide foundational reading & writing skills necessary for students pursuing the AP Capstone Diploma
- ★ Provide a foundational understanding of history related to the CE region
- ★ Empower you to collect and analyze information with accuracy and precision
- ★ Cultivate your ability to craft, communicate, and defend evidence-based arguments

## **Central European Studies: Year 2**

**Course title:** Central European Studies 2

**Course length:** 1 year (Year 2)

**Credit:** 2

**Department:** CES

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### **Course description:**

Central European Studies is a program consisting of two modules: History & Social Studies (HSS), and Writing & Rhetorics (WR). It centres on inquiry and insight into the behaviours, beliefs, motivations, and functions of individual humans, human society, and states, which are essential understandings for engaged citizenship and transformative leadership. CE Studies cultivates students' ability to seek out, ask, and answer meaningful questions and to communicate their ideas with accuracy and impact. While developing students as global thinkers, the programme facilitates students' foundational exploration of the complexities, contexts, challenges, and opportunities that exist in Central Europe and how these intersect with students' own experiences and interests.

The CES Year Two History & Social Studies module will be taught in parallel with the Writing & Rhetorics module. The latter is an inquiry-based course (meaning lots of questions) that aims to engage you in conversations that explore real-world topics through a historical lens and from multiple perspectives. By the end of the course, you will have the reading and academic writing tools to develop, conduct, and write a research paper that analyzes information and communicates evidence-based arguments effectively.

The goals of the combined CES courses include:

- ★ Provide foundational reading & writing skills necessary for students pursuing the AP Capstone Diploma
- ★ Provide a foundational understanding of history related to the CE region
- ★ Empower you to collect and analyze information with accuracy and precision
- ★ Cultivate your ability to craft, communicate, and defend evidence-based arguments

## **CES: WRITING & RHETORIC (YEAR 3)**

**Course title:** Year 3 Writing Course

**Course length:** 1 academic year

**Department:** CES

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**Course description:**

The Year 3 Writing Course aims to develop a student's ability to evaluate how text structures can be used in innovative ways by different authors. Students will also explore how a choice of language features, images and vocabulary contributes to the development of individual style. Students will be challenged to develop and justify their own interpretations of texts, evaluate other interpretations, and analyse the evidence used to support them.

Students will develop an awareness of how the selection of language features can achieve precision and stylistic effect. In addition, students will grow to explain different viewpoints, attitudes and perspectives through the development of cohesive and logical arguments. They will be challenged to develop their own style of writing by experimenting with language features, stylistic devices, text structures and images.

To help achieve the aims of the course, students will create a wide range of texts to articulate complex ideas. They will be required to make presentations and actively contribute to class and group discussions: building on others' ideas, solving problems, justifying opinions and developing and expanding arguments. Throughout the course, each student will need to demonstrate a significant understanding of grammar choices and show an awareness of how using varying diction choices can enhance an author's impact upon an audience.

**INTRODUCTION TO WORLD LANGUAGE: GERMAN 1 AND 2**

**Course title:** Introduction to World Language German

**Course length:** 2 years (Year 1-2)

**Credit:** 1/year

**Department:** CES

**Course description:**

This two-year course introduces students to the world language. Starting with basic vocabulary, grammar and communication skills, students gradually build familiarity with the world language and culture. In addition to communication practice in a real world setting, students will engage with (increasingly complex literary and journalistic) authentic texts relevant to their language level.

Understanding of and comparison with the target culture are one of the essential aspects of this course. This course is open to all students including complete beginners. Students will be assigned to smaller groups based on an initial diagnostic exam.

**WORLD LANGUAGE: GERMAN 1-3**

Course title: GERMAN 1- 3

Course length: 1 year

Credit: 1/ year

Department: CES

**Course description:**

This course builds on what was introduced in World Language German 1 and 2. Students learn more complex grammar. The topics covered are more advanced, they engage with various texts - literary and journalistic. They prove their knowledge in projects, presentations, meeting with German speakers (if

possible). Understanding of and comparison with the target culture are one of the essential aspects of this course.

## **NATIONAL LANGUAGE**

**Course title:** National Language

**Course length:** 4 years (Year 1-4)

**Credit:** ½ per year

**Department:** CES

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**Course description:** This course helps students keep in touch with their national language, culture and country itself. The course is a combination of current affairs reading, discussions and essays writing on topics such as economy, politics, business, history, etc. The objective is to build up professional vocabulary and to improve writing skills. The content is tied to the CES curriculum. Key pieces of literature are discussed, reflected upon and written about to help students think about their culture and national identity. The connection with one's own culture is nurtured through gallery exhibitions, movie or theatre performances, or other cultural events (if applicable).

## **ENGLISH LANGUAGE LEARNING**

**Course title:** English Language Learning

**Course length:** from a term to a whole year (Year 1-3)

**Credit:** TBD

**Department:** CES

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### **Course description:**

This course is designed to improve students' English proficiency, so that they enhance their studies. Students focus on Grammar and Vocabulary Development. The aim of the course is to guide students to become independent English speakers who can use the language in an academic setting and possess the skills necessary, e.g. working with academic texts, note taking, vocabulary enrichment and maintenance, appropriate communication techniques etc.

## **ENTREPRENEURIAL LEADERSHIP**

**Course title:** Entrepreneurial Leadership

**Course length:** Year Long (Year 1, Year 2, Year 3, Year 4)

**Credit:** 1/year; 4 credits in 4-years program, 2 credits in 2-year program

**Department:** EL

### **Course description:**

Entrepreneurial Leadership course empowers students to learn and to make, already during the studies, positive changes in the public and business sector. Our aim is on the higher quality of life in Central Europe and learning from the diverse experiences and regions of our students and faculty..

We learn leadership which is entrepreneurial. That means we learn how to act on real problems in society, find real opportunities on the market and make real solutions.

In leadership, we practice situational leadership. Each person is responsible for the action, either as a leading or follower role, depending on the situation. We learn how to take responsibility and how to empower learning and morality in the team. Recognizing and learning how to solve ethically challenging situations is part of leadership studies.

In the entrepreneurial part, we learn from the actual world best practices and global trends. We adopt human-centered design, business modeling, agile project management, and making things happen in reality as the key methods. It is important to say though that there is little scientific research on successful entrepreneurship.

## **EL in the two-year program**

Within their first year of studies, students learn in the following programs:

- Entrepreneurial Leadership Foundations (Term 1)
  - You will learn and practice the basics of human-centered design - BUILD
- Partner Projects (Term 2-3)
  - You will learn via short projects with partners from public and business sector and acquire basic teamwork and agile project management skills via agile project management approach
- Global Trends and Original Idea for Development (Term 3-4)
  - You will get familiar with the actual global trends, learn how to search for and work with global data in selected topics
  - We learn how to identify opportunities with qualitative and quantitative inputs

In the second year of studies, students build on the first year's tools and skills via:

- Student Enterprises (Term 1-2); Student Enterprises Transition (Term 3)
  - Students Enterprises program includes individual learning, team learning and application of (new) concepts, lectures from public and business sector
  - We learn: How to apply concepts we have learned in previous EL classes on our own original ideas. With focus on new idea validation, project and team management.
- Serving as Teacher Assistants (Term 1-3)
  - We learn: situational and servant leadership, team communication, basics of facilitation skills, building of educational programs and the expertise in the particular subject (positions are available in all teaching departments)
- Entrepreneurial Leadership & Life after LEAF Academy (Term 4)

## **EL in the four-year program**

Within their first year of studies, students learn in the following programs:

- Entrepreneurial Leadership Foundations (Term 1)
- Partner Projects with external companies, municipalities and NGOs (Term 2-3)
- Global Trends, STEEL and Original Idea for Development (Term 3-4)

In the second year of studies, student build in the tools and skills learned in their first year via:

- Student Enterprises (Term 1-4)
- Lectures from public and business sector (throughout the academic year)

In the third year of studies, students continue learning in:

- Upgrading and running (new) Student Enterprises (Term 1-4; Term 1-2 in case of not continuing with an SE and taking an internship for next year)
- Student Enterprises Transition (Term 3-4)

In the fourth year of studies, students learn via:

- Student Enterprises (Term 1-2), Student Enterprises Transition (Term 3)
- Serving as Teacher Assistants (Term 1-3)
- Connecting Entrepreneurial Leadership to Life after LEAF Academy (Term 4)
- Lectures from public and business sector (throughout the academic year)

## STEM

### AP® BIOLOGY

**Course title:** AP Biology

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** STEM

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**Course description:**

AP Biology is an introductory college-level biology course. Students cultivate their understanding of biology through inquiry-based investigations as they explore the following topics: evolution, cellular processes, energy and communication, genetics, information transfer, ecology, and interactions. Throughout the course students are developing advanced inquiry and reasoning skills – by designing a plan for collecting and analyzing data, connecting concepts and practicing skills in order to accomplish a goal or task as well as solving current scientific problems. An essential part of AP Biology is lab work which helps students practice science process skills, and builds a first-hand understanding of the investigated phenomena. Lab work takes at least 25% of the course time.

During the course of biology class also collaborates with the experts from the field – we are visiting the labs in Slovak Academy of Sciences where the students are having the first contact with the real science.

### AP® CALCULUS AB/BC

**Course title:** AP Calculus

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** STEM

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**Course description:** AP Calculus is a course directed at students intending to read mathematics, physics, engineering or economics at university. It covers the seminal topics such as limits, differentiation, integration, differential equations and (in BC) sequences. While mastering the use and techniques of each is an essential element of the course, the main aim of the course is to refine students' competency in mathematical literacy and argumentation. This also includes interpretation of numerical and graphical data, and translating between different representations. The study of properties of various mathematical objects including functions and series builds specialised maths skills and solid foundations for courses in mathematical analysis or numerical maths.

AP Calculus is a challenging course which requires prior mathematical knowledge. Students aspiring to take Calculus are expected to have a good knowledge of functions (including trigonometric, inverse trigonometric, rational, exponential and logarithmic), their properties (increasing/decreasing, parity, extrema, inverse functions) and basics of analytic geometry. More information will be provided directly by the teacher. The course adopts a pragmatic view to technology; graphical calculators and computers (especially spreadsheets) are used when appropriate.

### **AP® CHEMISTRY** - *Is not opened in 2020/2021 school year*

**Course title:** AP Chemistry

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** STEM

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#### **Course description:**

AP Chemistry is designed for students interested in Chemistry, who would like to pursue further studies in Science where Chemistry is an integral part. This course is equivalent to a first-year college or university General Chemistry course. The critical focus is given to analytical and systematic thinking to explore the nature of Chemistry. Later, the students synthesize the gained knowledge to deal with complex tasks related to real-life issues and assigned problems. One of the aims is also to develop the problem-solving skills, and the students are encouraged to provide creative solutions. Students also apply the theoretical knowledge in practical laboratory sessions. The students are welcome to raise questions at all times, which improves their critical thinking and is an essential skill in Science. As in the academic university environment, the students are regularly assigned homework and reading tasks, which will later help their transition at the college.

The course is structured in the following units:

- Unit 1: Chemical reactions and Chemical Calculations
- Unit 2: Introduction to Quantum Behaviour and the Structure of Atom
- Unit 3: Bonding and Shapes of Molecules
- Unit 4: Gases and Intermolecular Forces
- Unit 5: Kinetics
- Unit 6: Equilibrium
- Unit 7: Application of Thermodynamics

### **AP® COMPUTER SCIENCE A**

**Course title:** AP Computer Science A

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** STEM

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#### **Course description:**

Computer science embraces problem solving, hardware, algorithms, and perspectives that help people utilize computers to address real-world problems in contemporary life. Students who take the AP Computer Science A course and exam are well prepared to continue their study of computer science and

its integration into a wide array of computing and STEM-related fields.

The AP Computer Science A course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design. These techniques represent proven approaches for developing solutions that can scale up from small, simple problems to large, complex problems.

The following are the major areas of study, that are foundational to studying computer science A course:

- design, implement, and analyze solutions to problems.
- use and implement commonly used algorithms.
- use standard data structures.
- develop and select appropriate algorithms and data structures to solve new problems.
- write solutions fluently in an object-oriented paradigm.
- write, run, test, and debug solutions in the Java programming language, utilizing standard Java library classes and interfaces from the AP Java subset.

## **AP® COMPUTER SCIENCE PRINCIPLES**

**Course title:** AP Computer science principles

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** STEM

### **Course description:**

This course is supervised by a teacher at least once in a week. Students are working on online platforms offering AP CSP curriculum.

AP Computer Science Principles is a year-long course aiming to foster students' creativity and critical thinking through employment of a variety of digital tools. Students analyse data, posit trends, design, and code programs in order to study areas of their interest. As a result, the course develops a range of skills, including collaboration, communication, project management, as well as more the more traditional ones such as abstraction and algorithmic thinking. Due to its open nature, the course does not require the use of a prescribed programming language; this choice is left to students and their teachers. The class is also open for discussion of current topics in the digital world.

The following are the major areas of study, that are foundational to studying computer science:

- Abstraction: reducing information and detail to facilitate focus on relevant concepts.
- Data and Information: information processing, change from art to business to science.
- Algorithms: developing solutions to computational problems
- Programming: creation of software
- The Internet: networking and computer communication
- Global Impact: new innovations enabled by computing have global impact.

## **AP® ENVIRONMENTAL SCIENCE**

**Course title:** AP Environmental Science

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** STEM

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**Course description:**

AP Environmental Science is a year-long cross-disciplinary subject, utilising knowledge from a range of subjects including physics, chemistry, biology, geography, economics and politics. Its aim is to provide students with knowledge and understanding of natural and human-caused environmental issues and look into their possible solutions. The topics covered include population, energy and waste management, use of natural resources, etc. Due to its cross-disciplinary nature, AP Environmental Science counts as either a global perspective or science/maths/computer studies subject for the AP International Diploma. The nature and scope of the course allow for inquiry-driven approaches, enabling students to channel their drive and curiosity to learn the most from the area. Additionally, a part of the course is dedicated to lab experimentation and field research.

### **AP<sup>®</sup> PHYSICS C: ELECTRICITY & MAGNETISM**

**Course title:** AP Physics C: Electricity & Magnetism

**Course length:** ½ year (Year 3 or Year 4)

**Credit:** 0.5

**Department:** STEM

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**Course description:**

AP Physics C combines two courses – AP Physics C: Mechanics, and AP Physics C: Electricity & Magnetism. Both are half-year-long courses. Students taking AP Physics C take two AP exams at the end of the year: one in Mechanics, and one in Electricity & Magnetism. Each of the courses is equivalent to a college calculus-based course. Since Physics C requires students' proficiency with calculus (especially differentiation and integration), students are expected to be taking Calculus simultaneously or have taken it previously.

Electricity and Magnetism covers areas of electrostatics, dielectrics, electric circuits, magnetic fields, and electromagnetism. Laboratory work aimed at enhancing scientific research skills is an integral part of the course; over 20% of the class time is dedicated to lab experimentation.

### **AP<sup>®</sup> PHYSICS C: MECHANICS**

**Course title:** AP Physics C: Mechanics

**Course length:** ½ year (Year 3 or Year 4)

**Credit:** 0.5

**Department:** STEM

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**Course description:**

AP Physics C combines two courses – AP Physics C: Mechanics, and AP Physics C: Electricity & Magnetism. Both are half-year-long courses. Students taking AP Physics C take two AP exams at the end of the year: one in Mechanics, and one in Electricity & Magnetism. Each of the courses is equivalent to a college calculus-based course. Since Physics C requires students' proficiency with calculus (especially

differentiation and integration), students are expected to be taking Calculus simultaneously or have taken it previously.

Mechanics is centered on topics including kinematics, Newton's laws of motion, circular and rotational motion, oscillations, as well as gravitation. Laboratory work aimed at enhancing scientific research skills is an integral part of the course; over 20% of the class time is dedicated to lab experimentation.

## **AP® STATISTICS**

**Course title:** AP Statistics

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** STEM

### **Course description:**

This course closely follows the AP Statistics syllabus, and covers topics including probability, descriptive statistics, linear regression, normal distribution and testing hypotheses. The focus on these areas allows a development of deeper understanding of the concepts involved, and thorough practice of skills. In contrast to many college-level courses, knowledge of calculus is not prerequisite for the course. The weekly instructional time of Statistics is 3.5 hours.

## **LEAF CORE: MATHEMATICAL MODELLING AND STATISTICS**

**Course title:** LEAF Core: Mathematical Modelling and Statistics

**Course length:** 1 semester (Year 3)

**Credit:** 1

**Department:** STEM

### **Course description:**

LEAF Core Mathematical Modelling and Statistics aims to develop quantitative reasoning, information literacy and critical thinking by providing students with a range of sophisticated tools and techniques, including descriptive statistics and inferential methods. As a result, the course develops both critical and creative thinking. Datasets that students are working with has a common background topic - economics and finance - to develop a basic level of financial literacy and knowledge of basic terms and their interpretation. As a final step of data analysis, students are designing their own simplified mathematical models and predicting behaviour of different observed variables.

The course is aimed at students who are not preparing for further studies or careers in mathematics or the sciences. Since the focus of the course is on skill development and exploration, in line with the Academy's interest in developing inner motivation and curiosity of the students, the course is taken on a pass or fail basis by all students. Students who do outstanding work or demonstrate thought and team leadership in the course are awarded a pass with distinction.

## **PRE-CALCULUS**

**Course title:** PreCalculus

**Course length:** Year Long (Year 3 or Year 4)

**Credit:** 1

**Department:** STEM

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**Course description:** PreCalc is focused on the Y3 students who intend to take AP Calculus in the following year, as well as on Y2 students with outstanding math skills. It covers the prerequisites for AP Calculus, mostly related to functions (constant, linear, quadratic, power, polynomial, rational, trigonometric, inverse trigonometric, exponential and logarithmic) and their properties (domain, range, increasing/decreasing, local/global extrema, continuity, parity, periodicity, one-to-one, inverse functions, asymptotes), sequences (arithmetic and geometric). The course is finalized by exploring vectors, polar coordinates, series and sequences, as well as by deepening of the argumentational and proving skills of participants in order to prepare them for the formalism of AP Calculus. Necessary is also the capability to treat functions formally and understand the relationship between graphical and formal properties of functions.

The course adopts a pragmatic view to technology; graphical calculators and computers (especially spreadsheets) are used when appropriate.

## **STEM: Computer Science**

**Computer Science: Year 1**

**Course title:** STEM Computer Science 1

**Course length:** Year Long (Year 1)

**Credit:** 1

**Department:** STEM

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**Course description:**

Computer science embraces problem solving, hardware, algorithms, and perspectives that help people utilize computers to address real-world problems in contemporary life. Students who take the Computer Science course are well prepared to continue their study of Computer science 2 and its integration into a wide array of computing and STEM-related fields.

The Computer Science 1 curriculum provides resources, such as application related labs, that connect with students with diverse interests, particularly female and underrepresented student populations. The course is engaging and underscores the importance of communicating solutions appropriately and in ways that are relevant to current societal needs. Thus, a well-designed, modern Computer Science 1 course can help address traditional issues of equity, access, and broadening participation in computing while providing a strong and engaging introduction to fundamental areas of the discipline.

Computer Science 1 course introduces students to computer science with fundamental topics that include searching for information while considering relevancy and security; gathering data and delivering presentations or publish information via basic website; students collaborate in network leveraging cloud solutions such as google spreadsheets; throughout the course they explore ethical, social, cultural impact of computational artefacts; create multimedia and publish while keeping an eye on privacy; in the last part of the course, they manage algorithmic thinking and implement solutions.

The course is assessed by the final project at the very end of each unit. Students prove their understanding by delivery of computational artefacts. This covers all essential knowledge and gathered skills.

The following are the major areas of study, that are foundational to studying Computer Science 1 course:

- Searching & Privacy on internet
- Presentation tools & Websites
- Data organization & analysis
- Office tools skillset
- Basic programming
- Basic Algorithms and Data Structures
- The societal impacts of computing

## **Computer Science: Year 2**

**Course title:** STEM: Computer Science 2

**Course length:** Year Long (Year 2)

**Credit:** 1

**Department:** STEM

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### **Course description:**

Computer science embraces problem solving, hardware, algorithms, and perspectives that help people utilize computers to address real-world problems in contemporary life. Students who take the Computer Science course are well prepared to continue their study of Computer science A or Computer science Principles and its integration into a wide array of computing and STEM-related fields.

The Computer Science 2 curriculum provides resources, such as application related labs, that connect with students with diverse interests, particularly female and underrepresented student populations. The course is engaging and underscores the importance of communicating solutions appropriately and in ways that are relevant to current societal needs. Thus, a well-designed, modern Computer Science 2 course can help address traditional issues of equity, access, and broadening participation in computing while providing a strong and engaging introduction to fundamental areas of the discipline.

Computer Science 2 course introduces students to computer science with fundamental topics that include collaborative programming; they describe real world situation by mathematical model interpreted in coding or spreadsheets; they support their ideas by visualization in pictures or movies; student demonstrate usage of presentation devices such as mixpult, setup printer with booklet, setup own network with internet connection.

The course is assessed by the group project throughout the year consisting of various phases, as well as by on free-response & quizzes, homework and online portfolio pages. Students prove their understanding by delivery of computational artefact and cooperation among the others if needed. This covers all essential knowledge and gathered skills.

The following are the major areas of study, that are foundational to studying Computer science 2 course:

- Collaborative Software Engineering
- Privacy and Security

- Computer Architecture

## **STEM: MATHEMATICS 1 and 2**

**Course title:** STEM Mathematics 1 and 2

**Course length:** two-year course 1 (Year 1 ) and 2 (Year 2)

**Credit:** 1/each year

**Department:** STEM

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**Course description:** The two-year course in Mathematics and Computer Science at LEAF Academy aims to develop students' critical thinking and problem solving through improvement of their inferential and analytical skills, as well as processing skills such as representing, modelling and calculating. Since communication is an essential part of the contemporary toolkit, we also focus on building the competency to communicate mathematical ideas.

The course is built around several modules. In the first year, students begin the year revisiting essential algebraic concepts and strategies followed by the discovery of mathematical logic and set theory. The latter half of the Year 1 curriculum includes reading and writing math which focuses on working with data, reading and producing various types of graphs and basic statistical concepts. The last part of the year is spent on combinatorics, leading students to discover fundamental combinatorial principles through a series of problems. In the second year, a deeper look into probability precedes a module on basic geometry concepts and calculations. The final component of the Year 2 course examines various function types and their corresponding equations, graph behavior, and basic properties.

These modules aim to provide firm mathematical foundations and allow students to learn maths by practicing it in a meaningful context. Whenever it is feasible, we intend to employ a constructivist approach to math, and project-based learning. While solving problems correctly is the essential counterpart to conceptual thinking – both of which we intend to develop – the course is much more oriented towards discovery of one's solutions than to application of the well-known formulae for expediency. Practical Computer Studies skills are built into the course, so they both reinforce understanding of maths, and that their knowledge is enduring.

A natural continuation of this course is LEAF Academy's Y3 course in Statistics and Mathematical modelling, which furthers understanding of mathematical literacy and representation of data. Graduates of Maths Y1-2 can also take AP Calculus straightaway, albeit self-study of advanced trigonometry and analytic geometry may be required.

## **STEM: SCIENCE**

### **Science: Year 1**

**Course title:** STEM Science 1

**Course length:** Year Long (Year 1)

**Credit:** 1

**Department:** STEM

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**Course description:**

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The foundational two-year course in Science at LEAF Academy aims to build student's ability to ask and answer questions pertaining to natural phenomena, enhance their knowledge, and develop the skills necessary for scientific work. To this end, the course not only invites students to explore fundamental principles and laws of nature, but it systematically asks them to hone and apply their skills in guided and self-directed research.

The scope of the course includes a mixture of classical (e.g. mechanics and chemistry) and contemporary (DNA and heredity) topics. Part of the course will be driven by project work. Over the course students will engage in both guided and open-ended investigation, and will communicate their findings in various ways, including posters, blogs, lab papers and presentations. In the end, students will be well-prepared for further study in science, and motivated to apply the investigative and curious mindset, allowing them to solve real-life challenges confidently and successfully.

The first year of the course starts with the students looking into the nature of science, phenomena found in everyday life and composition of the matter around us. Students then proceed to introduction to classical mechanics. Topics on kinematics and dynamics are followed by mechanical energy. Students will continue with introduction into inorganic and organic chemistry. This will set a necessary foundation for the following topic of DNA and genetics.

## **Science: Year 2**

**Course title:** STEM Science 2

**Course length:** Year Long (Year 2)

**Credit:** 1

**Department:** STEM

### **Course description:**

The foundational two-year course in Science at LEAF Academy aims to build student's ability to ask and answer questions pertaining to natural phenomena, enhance their knowledge, and develop the skills necessary for scientific work. To this end, the course not only invites students to explore fundamental principles and laws of nature, but it systematically asks them to hone and apply their skills in guided and self-directed research.

The scope of the course includes a mixture of classical (e.g. human body) and contemporary (environmental systems) topics. Part of the course will be driven by project work. Over the course students will engage in both guided and open-ended investigation, and will communicate their findings in various ways, including posters, blogs, lab papers and presentations. In the end, students will be well-prepared for further study in science, and motivated to apply the investigative and curious mindset, allowing them to solve real-life challenges confidently and successfully.

Building up on the skills and knowledge from the previous year, in the second year, the course covers multiple topics from natural sciences. Students will discover living organisms on various levels beginning with cell structure and the study of complex organisms, such as a human body. The course also offers an introduction into scientifically accepted evolutionary theories and bioengineering. Later, students explore the topic of energy required for the existence and operation of both living and non-living systems, with a transition to basics of electricity to finish the year.

Theoretical principles discovered by experiments, as well as discussions about current research trends in the mentioned fields are an essential part of the year. Students will also engage in a cross-departmental project co-created with the EL department.