Austria (High School) Curriculum Standards (N-P)

The presentations offered by The Educated Choices Program provide support for teaching and learning of the following standards:

Physics, grades 9-12		Environment and Modern Agriculture	Healthful Eating
Grades 9-12	Language and communication ● Acquire a basic vocabulary of physical terms; ● Be able to differentiate and translate between everyday language and technical language; ● Gain insight into the necessity and effectiveness of symbolic descriptions; ● Be able to describe, record, argue and present physical facts; ● Be able to critically evaluate presentations of natural sciences in media (newspapers, films, internet, etc.). People & Society ● Understand physics as a basic science (knowledge of the world) and as an applied science (shaping the world); ● Taking responsibility for the sustainable use of resources; ● Observe ethical standards in the socially relevant implementation of physical knowledge; ● Develop rational ability to criticize social problems (e.g. climate change, energy, mobility). Nature and technology	✔	

	• Gaining insight into the causes of natural phenomena and the associated physical laws derived from them; • Develop causality thinking and recognize the limits of predictability based on practically or in principle incomplete system information; • Acquire scientific ways of thinking and working; • Understand physics as the basis of technology. Health and movement • Understand the basics of health-promoting behavior; • Develop safety awareness in the home and on the road, recognize opportunities and dangers in dealing with electricity, lasers, ionizing radiation, etc. Creativity and design • Understand scientific research as a creative process; • Design of physical and technical applications; • Creativity in problem-solving processes and model building. Basic physical education consists of three main areas. • Competency-oriented physics lessons should be designed in such a way that competencies from all three following areas are acquired and promoted each semester on the basis of the learning content. • The skills acquired in all three areas in the previous semester are deepened and expanded in the following semester in the interests of sustainable skills development. • W: Expertise ○ In this field, students acquire physical expertise and apply this expertise in different contexts. ○ Students demonstrate competence by ■ describing and naming processes and phenomena in nature, everyday life and technology, ■ deal with information from specialist media and sources,		

	■ presenting, explaining and communicating processes and phenomena in nature, everyday life and technology in various forms (images, graphics, tables, diagrams, formal relationships, models, ...), ■ applying expertise in different contexts. ● E: Experimentation and gaining knowledge ○ In this area, students acquire skills and abilities in dealing with physical working methods. ○ Students demonstrate competence by ■ formulating scientific questions and hypotheses about processes and phenomena in nature, everyday life and technology, ■ analyzing data by means of simulations or experiments (order, compare, determine dependencies, assess reliability), ■ mapping and interpreting data through mathematical and physical models. ● S: Justify points of view and evaluate them from a scientific point of view ○ In this area, students acquire the ability to argue scientifically and to participate in social discourse. ○ Students demonstrate competence by ■ recognizing the importance, opportunities and risks of applying scientific knowledge at a personal, regional and global level in order to be able to act responsibly, ■ distinguishing scientific from non-scientific arguments and questions, ■ reflecting on information from different reliable sources from a scientific point of view and from other perspectives (e.g. economic, ecological, ethical),		

	■ developing decision criteria for your own actions and review them from a scientific point of view. The requirement levels (complexity) of the competencies of the three areas are divided into two levels: ● Reproduction and transfer services ● Reflection and problem solving In addition, the following didactic principles apply: ● Physics lessons should be designed in such a way that they take into account the everyday experiences and ideas of the students. ○ It is also to be oriented towards the interests and previous experiences of the adults through the use of lifeworld references and everyday contexts, also across disciplines. ○ A too early abstraction should be avoided, the achievement of conceptual understanding should be in the foreground. ● Where available, modern media and technologies should be used in physics lessons (in particular electronic data acquisition, interactive simulations, data evaluation and analysis and modeling). ● When designing the lessons, special attention must be paid to adult suitability and the resilience of working students. ● The order and assignment of the teaching material to the competence modules 1 and 2 is determined at the individual school locations. ○ If necessary, the subject matter of the lower grades must be repeated appropriately to the knowledge of the students, so that the basic knowledge required to master the subject matter is secured. 5th semester – Competence module 1 ● Orders of magnitude in the micro and macrocosm; ● Position in the universe Mechanics:		

	● Relativity of rest and motion, Newton's laws, gravitation, linear and circular motion, momentum, angular momentum, energy, conservation laws ● Basics of thermodynamics ● Vibrations and mechanical waves : ○ generation and properties ● Fundamentals of electricity : ○ effects of electric current, simple circuit, current, voltage, electrical resistance, electrical energy 6th semester – Competence module 2 ● Basic phenomena of electromagnetic fields and electrodynamics : ○ electric and magnetic fields, principle of induction Energy: ● Insights into the earth's radiation balance, basics of conventional and alternative energy supply; ● Energy transfer; ● Safety in handling electrical energy Electromagnetic waves: ● Generation and properties using the example of light and other types of electromagnetic radiation, spectrum Atomic physics: ● Light as a carrier of energy (wave - particle), spectra, absorption and emission, model of the atomic shell Quantum Physics: ● Peculiarities of the Quantum World ● Insights into the development of theory and the worldview of modern physics Nuclear physics:		

	• Structure and stability of the nuclei, natural radioactivity, ionizing radiation, medical and technical applications, nuclear energy Current Research: • Insights into current physical research		

Psychology & Philosophy, grades 9-12		**Environment and Modern Agriculture**	**Healthful Eating**

Grades 9-12	The lessons in psychology and philosophy should enable a well-founded examination of the basic questions of life and offer orientation aids.
	• In psychology lessons, the students should gain insight into the experience and behavior of people and receive impulses for self-reflection and a better understanding of their fellow human beings.
	  ○ The students should get to know therapeutic aids and facilities, but it is not the task of psychology classes to provide therapeutic aids.
	• The philosophy class is intended to give the students an insight into the main currents of Western philosophy in exemplary form.
	  ○ The confrontation with reality and its knowledge, the question of truth, values, the question of meaning and the legitimacy of social orders should encourage the students to get involved in philosophizing as a process.
	The students
	• are accompanied and encouraged in their development into independent people who are capable of dialogue and conflict,
	• recognize the need for cooperation, social sensitivity and responsibility as a basis for democracy,
		✔	✔

	• acquire knowledge and skills that help break down stereotypes and promote equal opportunities and gender equality • gain insights into the possibilities and limits of thinking and acting through argumentative discussion of past and present explanatory models, • learn to select relevant information from the variety of content, • are instructed in scientific work and encouraged to reflect on the diverse scientific and pseudo-scientific theories and speculations. Acquired competences in psychology and philosophy are of lasting importance in the sense of a holistic education also outside the school context. Language and communication All areas of psychology and philosophy contribute to promoting linguistic and communicative processes: • Naming personal and social processes; • Express emotions and motivations in a differentiated way; • Practice forms of conversation, deepen conversational skills and give constructive feedback; • Grasp and understand the meaning of non-verbal communication; • Apply conceptual accuracy and develop argumentative justifications; • Recognize the limits of what can be said and described; • Encourage understanding reading through text work and compare texts from past epochs with current ideas. People & Society The skills acquired in psychology and philosophy lead the students to reflect on knowledge of themselves and their fellow human beings; • They promote understanding of the social forms of living together and their change.		

	○ In doing so, reference should also be made to the causes and manifestations of social inequality structures (e.g. related to gender, social and ethnic origin). ● The students are encouraged to critically examine the possibilities of different media and learn to select and interpret data. ● Global communication and cooperation enable intercultural thinking and acting. Teachers have to contribute to the promotion of a tolerant basic attitude also in the sense of an intercultural understanding. ● This includes the development of personal attitudes, judgement, the ability to take criticism, civil courage, respectful interaction with those who think differently and the willingness to act responsibly. Nature and technology ● The students learn the methods of scientific knowledge acquisition and reflect their limits. ○ They are made aware of the problem of the responsibility of scientists. ○ You deal with the social and historical context of scientific knowledge, in particular with scientific and technical progress and the resulting moral problems. Creativity and design ● In addition to the theoretical analysis of creative processes, the students expand their spontaneity and flexibility through knowledge of alternative points of view and possible solutions. Health and movement ● The students get to know psychohygienic principles and deal critically with normality and health. (1st, 6th and 7th semester): Didactic principles		

	• Competence orientation means linking knowledge acquisition and application of knowledge. • It expands the time perspective and emphasizes the long-term goal of increasing knowledge and skills, moving away from small-step learning goals towards more sustainability. • This results in the following methodological consequences. Exemplary learning • Competencies are primarily acquired through exemplary content. • Since the acquisition of skills requires an active and intensive examination of materials and subject areas, the didactic principle of "learning by example" is of crucial importance. • This means, firstly, teaching with examples, and secondly, the conscious restriction to facts that have an exemplary character and can be considered the “foundations of PUP teaching”. • The fundamentals of PUP instruction are listed under Competencies and Content. Orientation towards the example also takes into account the different depths of processing or levels of competence: • Reproduce basic knowledge • Link and transfer knowledge • Reflect on what has been learned and use knowledge creatively Competence orientation as a middle between instruction and action orientation • When organizing the learning processes, a balance should be sought between instruction and action orientation. • Basically, students are to be strengthened in their independence and personal responsibility through open, self-organized forms of learning,		

	especially in distance learning, involving various media and information technologies. ● Suitable implementation options are, for example, independent structuring of work phases, research involving e-learning (e.g. Internet research, learning platforms). ● This helps to strengthen skills such as teamwork and presentation skills. ● Furthermore, the comprehensive communication skills of the students through discussions, by practicing logically correct reasoning (e.g. by writing philosophical essays) and by training active listening. The students are to be encouraged to read original texts independently. ● The writing of excerpts and minutes is suitable for consolidating learning processes. Experience orientation ● Depending on the possibility, a connection to the living environment should be established by inviting experts or by visiting extracurricular institutions. ● When working on the topics, care must be taken to ensure that the presentation is age-appropriate and relevant to the life situation of the students. ○ This is based on personal experience and previous knowledge from other subjects. ○ The contribution of Austrian researchers to psychology and philosophy should be included in the lessons. ○ In general, attention should be paid to a balanced relationship between the competence levels of reproduction, transfer and reflection in the individual subject areas.		

	Emphasis on networking A sustainable acquisition of skills is reflected in the networking of content. PUP promotes networking skills in three ways: ● Psychology and philosophy: Here there are many possibilities, e.g. to link perception with epistemological questions etc. ● Cross-curricular (interdisciplinary): The subject is interdisciplinary due to the diverse content and methods. ● Interdisciplinary: The PUP lessons offer a special way of combining action, experience and theoretical analysis (e.g. addressing the image of man, addressing self-esteem, identity, the influence of role models and gender norms, learning reflection, dealing with conflicts). This results in a network of real-world experience and theoretical justification. Educational and teaching task, subject matter: Cross-semester competencies ● The PUP lessons can make a decisive contribution to supporting the personality development of the students, referring to their individual abilities, encouraging them in their lifelong learning (personal competence), imparting knowledge and skills (professional competence) as well as the self-reliance of the students promote (social skills). ● Cross-semester competencies for psychology and philosophy are: ○ understand terms and use them in a differentiated way		

	○ compare knowledge from different subject areas ○ analyze and interpret texts, graphics and diagrams in a subject-specific manner ○ formulate appropriate questions ○ recognize and assess their own strengths and weaknesses ○ recognize dealing with content from psychology and philosophy as a personal orientation aid 1st semester - competence module 1 Aspects of scientific psychology ● Describe central terms (psychology, experiment, objectivity...). ● Discuss differences between everyday psychology and scientific psychology ● Present and reflect on methods of psychology ● Establishing relationships between psychological knowledge and life practice Phenomena of perception and perceptual processes ● Describe perception as an active and purposeful process ● Recognize errors in perception and become aware of them ● Record and analyze selective processes of perception ● Discuss perceptual influences Cognitive processes and learning ● Reproducing models for memory and learning ● Compare and reflect on your own learning with theoretical knowledge ● Explain current findings on thinking Social Phenomena and Communication ● Describe and reflect on social phenomena ● Recognize and analyze forms of aggression and violence		

	● Present and differentiate communication processes Development and upbringing issues ● Reflect phenomena of psychological development ● Recognizing and reflecting on the importance of various influences on development 6th semester – competence module 2 Aspects of personality ● Describe human experience and behavior from the perspective of personality psychology ● Understand the meaning of emotions ● Discuss mental health and its impairments Anthropological designs ● Distinguish and interpret anthropological concepts ● Draw on knowledge from various specialist areas for a reflective discussion Foundations of philosophy ● Describe the characteristics of philosophy and basic philosophical concepts ● Assess philosophical questions ● Describe and apply methods of philosophizing 7th semester – competence module 3 Aspects of epistemology and philosophy of science ● Analyzing and reflecting on approaches to reality and its possible interpretations ● Work on epistemological and epistemological issues Fundamental questions of ethics ● Explain basic ethical positions and question them critically		

	• Working out differences in ethical concepts • Develop and justify values in private, political and ecological issues		