

Grade 10 Course Calendar

**For a quick and easy access to all
Grade 10 courses offered, please click the
bookmarks tab to the left of your screen.**

**Then select a subject and the
corresponding courses will appear.**

ARTS

DRAMATICARTS

ADA 20 Dramatic Arts - Open 1 credit

This course requires students to actively explore dramatic forms and techniques, using their own ideas and concerns as well as sources selected from a wide range of authors, genres, and cultures. Student learning will include identifying and using the principles of space, time, voice, and movement in creating, sustaining, and communicating authentic roles within a drama. Students will assume responsibility for decisions made in the creation and presentation of the drama, and will analyse and reflect on the experience.

Dramatic Arts Focus Course:

ADD 20 Dramatic Arts - Production 1 credit
Open

This course requires students to actively explore dramatic forms and techniques, using their own ideas and concerns as well as sources selected from a wide range of authors, genres, and cultures. Student learning will include identifying and using the principles of space, time, voice, and movement in creating, sustaining, and communicating authentic roles within a drama. Students will assume responsibility for decisions made in the creation and presentation of the drama, and will analyse and reflect on the experience.

This focus course in Production will provide students with the opportunity to learn a range of technical theatre skills. All production elements are available for exploration, including set, lighting, sound and costume design, stage management, front-of-house, construction and box office.

MUSIC

AMU 20 Music - Open 1 credit

This course emphasizes performance of music at an intermediate level that strikes a balance between challenge and skill. Student learning will include participating in creative activities and listening perceptively. Students will also be required to develop a thorough understanding of the language of music, including the elements, terminology, and history.

ARTS

Music Focus Courses:

AMG 20 Music - Guitar 1 credit
Open

This course emphasizes performance of music at an intermediate level that strikes a balance between challenge and skill. Student learning will include participating in creative activities and listening perceptively. Students will also be required to develop a thorough understanding of the language of music, including the elements, terminology, and history.

This focus course in guitar will provide students with the opportunity to learn to play the guitar and develop proper guitar techniques. Students will also have the opportunity to learn to read, perform and appreciate music, as well as to study basic music theory, history, and analysis.

**** Prerequisite:** This course is designed for the student with no or little prior knowledge of guitar.

AMI 20 Instrumental Music (Band) 1 credit
Open

This course emphasizes performance of music at an intermediate level that strikes a balance between challenge and skill. Student learning will include participating in creative activities and listening perceptively. Students will also be required to develop a thorough understanding of the language of music, including the elements, terminology, and history.

This focus course in Instrumental Music (Band) will provide students with the opportunity to learn to further develop their range, tone quality, projection, intonation and articulation. Students will also have the opportunity to learn to develop more complex rhythmic reading and performing skills, to read, perform and appreciate music, and to continue their study of music theory, history, and analysis.

AMK 20 Keyboard Music - Open 1 credit

This course emphasizes performance of music at an intermediate level that strikes a balance between challenge and skill. Student learning will include participating in creative activities and listening perceptively. Students will also be required to develop a thorough understanding of the language of music, including the elements, terminology, and history.

This focus course in Keyboard Music will provide students with the opportunity to learn to play melodies, scales, rhythmic patterns, basic chords and to develop proper fingering and posture for the piano/keyboard. Students will also have the opportunity to learn to read, perform and appreciate music, and to study basic music theory, history, and analysis.

ARTS

AMM20 **Music and Computers -** **1 credit**
Open

This course emphasizes performance of music at an intermediate level that strikes a balance between challenge and skill. Student learning will include participating in creative activities and listening perceptively. Students will also be required to develop a thorough understanding of the language of music, including the elements, terminology, and history.

This focus course in Music and Computers will provide students with the opportunity to further develop skills in music composition, orchestration, and arrangement through Midi, computers and the electronic keyboard. Students will also have the opportunity to create, mix, sequence and perform music through digital media, and to study music theory, history and analysis.

AMR20 **Music Repertoire - Open** **1 credit**

This course emphasizes performance of music at an intermediate level that strikes a balance between challenge and skill. Student learning will include participating in creative activities and listening perceptively. Students will also be required to develop a thorough understanding of the language of music, including the elements, terminology, and history.

This focus course in Music Repertoire will provide students with the opportunity to learn an extensive repertoire for their instrument or voice. Students will also be provided with the opportunity to learn sight reading, presentation, and performance skills as well as various styles through listening, and analysing selected works.

AMS20 **Instrumental Music (Strings) -** **1 credit**
Open

This course emphasizes performance of music at an intermediate level that strikes a balance between challenge and skill. Student learning will include participating in creative activities and listening perceptively. Students will also be required to develop a thorough understanding of the language of music, including the elements, terminology, and history.

This focus course in Instrumental Music (Strings) will provide students with the opportunity to learn to further develop their range, tone quality, projection, intonation, and bowing techniques. Students will also have the opportunity to learn to develop more complex rhythmic reading and performance skills and to continue their study of music theory, history, and analysis.

ARTS

AMV 20 **Music (Vocal/Choral) -** **1 credit**
Open

This course emphasizes performance of music at an intermediate level that strikes a balance between challenge and skill. Student learning will include participating in creative activities and listening perceptively. Students will also be required to develop a thorough understanding of the language of music, including the elements, terminology, and history.

This focus course in Vocal Music will provide students with the opportunity to learn vocal music skills in intonation, projection, tone quality, breath control and diction. Students will also have the opportunity to learn to sing three and four part repertoire, to read, perform and appreciate music as well as to continue their study of music theory, history, and analysis.

MEDIA ARTS

ASM 20 **Media Arts - Open** **1 credit**

This course will develop students' artistic knowledge and skills by introducing them to current media arts technologies and processes. Student learning will include the analysis, appreciation, and production of media art, using a variety of traditional techniques (e.g., photography, film, photocopy art, video, analog sound recording) and emergent technologies (e.g., computer, digital camera, scanner, multimedia, animation).

DANCE

ATC 20 **Dance - Open** **1 credit**

This course requires students to develop their dance skills and learn the theoretical basis for working with anatomical structure in executing dance movements. Student learning will include the processes that form the basis for creating dance; the historical development of dance; students' own aesthetic appreciation of dance as they participate in dance class, rehearsals, and performances; and the specialized vocabulary of dance criticism.

ARTS

Dance Focus Course:

ATD 20 **Dance - Composition -** **1 credit**
Open

This course requires students to develop their dance skills and learn the theoretical basis for working with anatomical structure in executing dance movements. Student learning will include the processes that form the basis for creating dance; the historical development of dance; students' own aesthetic appreciation of dance as they participate in dance class, rehearsals, and performances; and the specialized vocabulary of dance criticism.

This focus course in Composition will provide students with the opportunity to learn creative problem-solving techniques in the creation of dance as well as the theories of composition. Students will also study the historical and cultural aspects of composition in dance.

VISUAL ARTS

AVI 20 **Visual Arts - Open** **1 credit**

This course emphasizes learning through practice; building on what students know; and introducing them to new ideas, materials, and processes for artistic thinking and experimentation. Student learning will include the refined application of the elements and principles of design, incorporating the creative and design processes, and the relationship between form and content.

Students will also learn about the connections between works of art and their historical contexts. Course objectives may be achieved either through a comprehensive program or through a program focused on a particular art form (e.g., drawing, painting).

ARTS

Visual Arts Focus Courses:

AWM 20 **Visual Arts - Drawing and Painting -** **1 credit**
Open

This course emphasizes learning through practice; building on what students know; and introducing them to new ideas, materials, and processes for artistic thinking and experimentation. Student learning will include the refined application of the elements and principles of design, incorporating the creative and design processes, and the relationship between form and content.

This focus course in Drawing and Painting will provide students with the opportunity to learn skills in drawing and painting and to apply these techniques to creating a variety of subject matter. Students will also have the opportunity to learn art history and criticism techniques and approaches, as well as to analyse two-dimensional works of art by famous artists past and present, peers, and self.

AWR 20 **Visual Arts - Film/Video -** **1 credit**
Open

This course emphasizes learning through practice; building on what students know; and introducing them to new ideas, materials, and processes for artistic thinking and experimentation. Student learning will include the refined application of the elements and principles of design, incorporating the creative and design processes, and the relationship between form and content.

This focus course in film/video will provide students with the opportunity to learn skills in this medium.

BUSINESS STUDIES

BBI 20 **Introduction to Business - Open** **1 credit**

This course introduces students to the world of business. Students will develop an understanding of the functions of business, including accounting, marketing, information technology, human resources, and production, and of the importance of ethics and social responsibility. This course builds a foundation for further studies in business and helps students develop the business knowledge and skills they will need in their everyday lives.

* This course is not available to students who have completed BBI 10.

BTT 20 **Information and Communication
Technology in Business - Open** **1 credit**

This course introduces students to information and communication technology in a business environment and builds a foundation of digital literacy skills necessary for success in a technologically driven society. Students will develop word processing, spreadsheet, database, desktop publishing, presentation software, and website design skills. Throughout the course, there is an emphasis on digital literacy, effective electronic research and communication skills, and current issues related to the impact of information and communication technology.

* This course is not available to students who have completed BTT 10.

CANADIAN AND WORLD STUDIES

CHC 2D **Canadian History Since
World War I - Academic** **1 credit**

This course explores the local, national, and global forces that have shaped Canada's national identity from World War I to the present. Students will investigate the challenges presented by economic, social, and technological changes and explore the contributions of individuals and groups to Canadian culture and society during this period. Students will use critical-thinking and communication skills to evaluate various interpretations of the issues and events of the period and to present their own points of view.

CANADIAN AND WORLD STUDIES

CHC 2P **Canadian History Since
World War I - Applied** **1 credit**

This course explores some of the events and experiences that have influenced the development of Canada's identity as a nation, from World War I to the present. By examining how the country has responded to economic, social, and technological changes and how individuals and groups have contributed to Canadian culture and society during this period, students will develop their ability to make connections between historical and current events. Students will have opportunities to formulate questions, locate information, develop informed opinions, and present ideas about the central issues and events of the period.

CHV 20 **Civics - Open** **.5 credit**

This course explores what it means to be an informed, participating citizen in a democratic society. Students will learn about the elements of democracy in local, national, and global contexts, about political reactions to social change, and about political decision-making processes in Canada. They will explore their own and others' ideas about civics questions and learn how to think critically about public issues and react responsibly to them.

This course may be offered in French as part of the Extended French program. See page 10 for more details.

This course may be available "on-line" as an eLearning course. See your Guidance Counsellor.

CLASSICAL AND INTERNATIONAL LANGUAGES

Classical (only at Sir Winston Churchill S.S.)

LVLAD Latin 1 credit

This course introduces students to the achievements of the classical world through the study of Latin or ancient Greek. Students will learn vocabulary and grammar essential for reading and translating classical texts. English is the language of instruction. Through a variety of enrichment activities, such as presentations, debates, and dialogues, students will explore such aspects of life in the ancient world as trade, commerce, education, entertainment, and social customs while improving their language skills.

International

LWG BD German - Academic 1 credit
LWIBD/LWIBO Italian - Academic 1 credit
LKJ BD Japanese - Academic 1 credit
LWS BD Spanish - Academic 1 credit

These courses are designed to enable students to begin to communicate with native speakers of the language of study. Students will use simple language and read age and language-appropriate passages for various purposes. They will explore aspects of the culture of countries where the language under study is spoken, including social customs and the arts, by participating in cultural events and activities involving both print and technological resources.

ENGLISH

ENG2L English 1 credit
Locally Developed Compulsory Course

This course emphasizes key skills in reading, writing, oral communication, and thinking that these students need for continuing success in their secondary school subjects, and to communicate with others in their lives outside of school. The units suggest instructional strategies and a developmental approach to teaching the expectations that are essential for these students' success. This course gives students a solid literacy skills foundation to enter Grade 11 English, Workplace and to prepare them for successful completion of the Grade 10 Test of Reading and Writing Skills. Students read key information and literacy text forms, including novels, editorials, magazine feature articles and poetry, for personal and academic purposes. They use their knowledge of media to create media works. Students will produce clear, complete writing in a variety of narrative and non-narrative forms for real-life purposes (including world of work), using appropriate and correct language. In particular, the course encourages students to develop and reflect upon the strategies that will improve their literacy competence and confidence.

ENGLISH

ENG2D English - Academic 1 credit

This course extends the range of analytic, reading, writing, oral communication, and thinking skills that students need for success in secondary school academic programs. Students will study and interpret challenging texts from contemporary and historical periods, including novels, poems, plays, and opinion pieces, and will analyse and create effective media works. An important focus will be the thoughtful use of spoken and written language.

ENG 2P English - Applied 1 credit

This course extends the range of key reading, writing, oral communication, and thinking skills that students need for success in all areas of the curriculum. Students will study novels, poems, magazines, and reports, and will describe, design, and produce effective media works. An important focus will be the clear and coherent use of spoken and written language.

For English as a Second Language Course Descriptions, please see pages 59 & 60.

FRENCH

FEF2D Extended French - Academic 1 credit

This course emphasizes the continued development and refinement of students' oral communication, reading, and writing skills as they explore a variety of themes. Students will expand their knowledge and appreciation of francophone culture through the study and interpretation of novels, poems, and plays intended for a French-speaking audience.

For more information regarding the Extended French program see page 10.

FRENCH

FSF 2D **Core French - Academic** **1 credit**

This course enables students to increase their knowledge of the French language, further develop their language skills, and deepen their understanding and appreciation of francophone culture around the world. Exploring a variety of themes, students will develop and apply critical thinking skills in discussion, in their analysis and interpretation of texts, and in their own writing.

FSF 2P **Core French - Applied** **1 credit**

This course emphasizes the further development of oral communication, reading, and writing skills using a broad-based theme such as adolescence. Students will expand their knowledge of French by studying a series of theme-related topics, such as students' rights and responsibilities, relationships with peers and adults, and part-time jobs.

GUIDANCE AND CAREER EDUCATION

GLC 2O **Career Studies - Open** **.5 credit**

This course teaches students how to develop and achieve personal goals for future learning, work, and community involvement. Students will assess their interests, skills, and characteristics and investigate current economic and workplace trends, work opportunities, and ways to search for work. The course explores postsecondary learning and career options, prepares students for managing work and life transitions, and helps students focus on their goals through the development of a career plan.

This course may be offered in French as part of the Extended French program. See page 10 for more details.

This course may be available "on-line" as an eLearning course. See your Guidance Counsellor.

GLE 2O **Learning Strategies*** **1 credit**

This course focuses on learning strategies to help students become better, more independent learners. Students will learn how to develop and apply literacy and numeracy skills, personal management skills, and interpersonal and teamwork skills to improve their learning and achievement in school, the workplace, and the community. The course helps students build confidence and motivation to pursue opportunities for success in secondary school and beyond.

* This course is only available to students who have an IEP — with Principal permission only.

GUIDANCE AND CAREER EDUCATION

GLD 2O **Discovering the Workplace
Open** **1 credit**

This course provides students with opportunities to discover and develop the workplace essential skills and work habits required to be successfully employed, and helps students make plans for continued learning and work. Students will develop an understanding of work through practical hands-on experiences in the school and in the community, using real workplace materials. Students will investigate occupations of interest through experiential learning opportunities, such as worksite visits, job shadowing, work experience, simulations, and entrepreneurial projects.

HEALTH AND PHYSICAL EDUCATION

PPL 2O **Healthy Active Living
Education - Open** **1 credit**

This course emphasizes regular participation in a variety of enjoyable physical activities that promote lifelong healthy active living. Student learning will include the application of movement principles to refine skills; participation in a variety of activities that enhance personal competence, fitness, and health; examination of issues related to healthy sexuality, healthy eating, substance use and abuse; and the use of informed decision-making, conflict resolution, and social skills in making personal choices. Students will only receive one Physical Education credit in Grade 10.

Area of Focus:

PAF 2O - Personal and Fitness Activities

This Healthy Active Living Education focus course emphasizes regular participation in a variety of enjoyable physical activities that promote lifelong healthy active living. Student learning will include the application of movement principles to refine skills, participation in a variety of activities that enhance personal competence, fitness and health. This course is designed for students who enjoy physical activities resulting in increased fitness, weight control and positive self-image. Physical activities will include hi/low impact, step aerobics, interval training, circuit and weight training as well as pilates and tai bo. Health topics to be covered are nutrition, personal relationships and developing a health body image.

MATHEMATICS

MAT2L **Mathematics** **1 credit**
Locally Developed Compulsory Course

This course provides students who have experienced significant difficulties in previous Mathematics courses an opportunity to obtain sufficient background and skill development to prepare them for Grade 11 and 12 Workplace Preparation courses. Whenever possible, ideas will be presented in a real-life context, providing students with the opportunity to explore, organize, interpret, and use mathematical models to solve problems. Technology and manipulative materials will be used wherever appropriate. Assessment and evaluation will be done using a wide variety of strategies.

MFM 2P **Foundations of Mathematics -** **1 credit**
Applied

This course enables students to consolidate their understanding of relationships and extend their problem-solving and algebraic skills through investigation, the effective use of technology, and hands-on activities. Students will develop and graph equations in analytic geometry; solve and apply linear systems, using real-life examples; and explore and interpret graphs of quadratic relationships. Students will investigate similar triangles, the trigonometry of right-angled triangles, and the measurement of three-dimensional objects. Students will consolidate their mathematical skills as they solve problems and communicate their thinking.

MPM2D **Principles of Mathematics -** **1 credit**
Academic

This course enables students to broaden their understanding of relationships and extend their problem-solving and algebraic skills through investigation, the effective use of technology, and abstract reasoning. Students will explore quadratic relationships and their applications; solve and apply linear systems; verify properties of geometric figures using analytic geometry; and investigate the trigonometry of right and acute triangles. Students will reason mathematically as they solve multistep problems and communicate their thinking.

This course may be offered in French as part of the Extended French program. See page 10 for more details.

SCIENCE

SNC 2L **Science** **1 credit**
Locally Developed Compulsory Course

This course emphasizes reinforcing and strengthening science-related knowledge and skills, including scientific inquiry, critical thinking and the relationship between science, society, and the environment, to prepare students for success in everyday life, in the workplace and in the Science Grade 11 Workplace Preparation course. Students explore a range of topics including science in daily life, properties of common materials, life-sustaining processes in simple and complex organisms, and electrical circuits. Students have the opportunity to extend mathematical and scientific process skills and to continue developing their skills in reading, writing, and oral language through relevant and practical science activities.

SNC 2D **Science - Academic** **1 credit**

This course enables students to develop a deeper understanding of concepts in biology, chemistry, earth and space science, and physics; to develop further their skills in scientific inquiry; and to understand the interrelationships among science, technology, and the environment. Students will conduct investigations and understand scientific theories related to: ecology and the maintenance of ecosystems; chemical reactions, with particular attention to acid-base reactions; factors that influence weather systems; and motion.

This course may be offered in French as part of the Extended French program. See page 10 for more details.

SNC 2P **Science - Applied** **1 credit**

This course enables students to develop a deeper understanding of concepts in biology, chemistry, earth and space science, and physics; to develop further their practical skills in scientific investigation; and to apply their knowledge of science to real-world situations. Students will design and conduct investigations into everyday problems and issues related to ecological sustainability, chemical reactions, weather systems, and motion.

SOCIAL SCIENCE AND THE HUMANITIES

These courses are not available to students who have completed HFN 10 and/or HIF 10.

HFN 20 Food and Nutrition - Open 1 credit

This course explores the factors that affect attitudes and decisions about food, examines current issues of body image and food marketing, and is grounded in the scientific study of nutrition. Students will learn how to make informed food choices and how to prepare foods, and will investigate our Canadian food heritage and food industries, as well as global food issues. The course also introduces students to research skills related to food and nutrition.

HIF 20 Individual and Family Living - 1 credit **Open**

This course explores the challenges faced by all people: how to meet basic needs, how to relate to others, how to manage resources, and how to become responsible members of society. Students will acquire knowledge and skills that are needed to make the transition to adulthood. Teachers will instruct students in developing interpersonal, decision-making, and practical skills related to daily life. Students will explore the functioning of families and the diversities found among families and within society.

TECHNOLOGICAL EDUCATION

In broad-based technology, courses in Grades 10, 11 and 12 that lead to apprenticeship or certification programs, or that are part of school-work transition programs, may be planned for up to 330 hours of scheduled instructional time. This additional instructional time allows for the practice and refinement of skills needed to raise the quality of students' performance to the levels required for certification, entry into apprenticeship programs, or participation in school-work transition programs. (It may also support articulation agreements for advanced standing or preferred entrance into specialized programs.) Instructional time may be increased by increments of 55 hours; for each additional 55 hours, students earn an additional half-credit. **A maximum of three credits may be earned for the successful completion of a 330-hour course.** The number of additional credits and the nature of the assignments to be completed must be established before the start of the course.

TCJ 20 Construction Technology - Open 1 credit

This course requires students to design, build, and evaluate projects using design instruments and machine and hand tools. Students will solve technological problems through a variety of media; identify and describe building materials and other resources needed to construct, maintain, and service buildings; identify support systems and components; apply safety rules related to materials, processes, and equipment; identify common architectural styles; and identify careers related to construction technology.

TCX 23 Refrigeration - Locally Developed 1 credit **Open**

This course examines the principles of natural and artificial refrigeration, heat and heat flow, temperature measurement, and pressures. Students will design and build refrigeration systems using tools and instruments unique to the refrigeration and air conditioning trade. Students will solve technological problems relating to the fabrication, servicing and the ultimate operation of these systems. The study of service valves, testing manifold, pressure readings and safety is also included. Students will acquire transferable skills relating to similar technologies.

TECHNOLOGICAL EDUCATION

TDJ 20 Technological Design - Open 1 credit

This course requires students to design and develop innovative products and services. Students will learn the following: how to identify user needs related to specified design problems; the physical properties of selected materials and their application in product design; techniques to create physical products and services; various presentation techniques; how to test and evaluate design solutions; and the implications of technology on the development of products or services. They will also become aware of design-related careers.

TEX 23 Electricity - Locally Developed 1 credit
Open

This course requires students to design and construct electrical circuits related to residential and commercial electrical field. Students will use all the related hand/power tools and metering equipment. They will be introduced to AC/DC theory and the operation of hydro-electric generating stations. They will also estimate materials and labour costs, and study hydro electric safety codes and standards. They will explore the impact of electrical technology on society and identify careers related to the electrical field.

TFJ 20 Hospitality and Tourism 1 credit
Technology - Open

This course emphasizes the scope of the hospitality and tourism industry. Students will study food origins, food-handling techniques and food preparation, health and safety standards, and the use of specialized tools and equipment. They will also investigate travel and tourism activities in Ontario, develop effective communication and management skills, and identify career opportunities in the hospitality and tourism industry.

TGJ 20 Communications Technology - Open 1 credit

This course requires students to complete a range of communications technology projects. These may include creating printed stationery, short videos, computer-generated animations, and graphical information displays. Students will learn to transfer information using electronic, live, and graphic communications methods. The knowledge and skills they will develop will provide a basis for careers in areas such as publishing, advertising, print production, animation, photography, and journalism.

TECHNOLOGICAL EDUCATION

THX 23 Horticulture 1 credit
Locally Developed - Open

This course introduces students to the scope of the horticulture industry. Students will study plant identification, plant science, landscaping, hydroponics, crop production and floral design. They will also acquire skills and knowledge for careers in the horticulture field.

TMJ 20 Manufacturing Technology - Open 1 credit

This course introduces students to the scope of the manufacturing industry, the various components used in the design of products, the industrial tools and equipment used, and methods of manufacturing, including assembly-line production. Students will learn about technical drawing; preparation processes; manufacturing techniques; power, electronic, and quality control systems; careers in the manufacturing field; and the role of entrepreneurs in Canadian society.

Area of Emphasis:

TMJ 20W — Manufacturing Technology - Welding

TPJ 20 Health and Personal 1 credit
Services Technology - Open

This course emphasizes technological applications in the areas of health care and personal services. Students will learn to describe and evaluate professional practices and principles; to select and use technical resources to solve problems; and to use materials, tools, and equipment safely. They will also acquire transferable skills for changing work environments, personal management skills, and knowledge of entry requirements for careers in this area.

Areas of Emphasis:

TPJ 20H — Health Care

TPJ 20C — Hairstyling and Aesthetics

TECHNOLOGICAL EDUCATION

TTJ 20 Transportation Technology - Open 1 credit

This course requires students to build projects and to learn service procedures related to different modes of transportation. Students will learn about support systems for transporting people and products; measurement systems and methods; the analysis, design, and construction of a system to convert and make practical use of energy; the function of major vehicle system components; the impact of transportation systems on the environment; communication skills; and transportation-related careers.

Areas of Emphasis:

- TTJ 20A — Transportation Technology - Auto Body
- TTJ 20S — Transportation Technology - Small Engines

TECHNOLOGICAL EDUCATION - PART B COMPUTER STUDIES

TEE 20 Computer Engineering Technology - Open 1 credit

This course examines computer hardware and the control of external components from an engineering perspective. Students will learn how to solve problems and will study the functions of key computer components and peripherals, logic gates, fundamental programming concepts, internal numbering and character representation systems, and operating systems and networks. Students will also develop an awareness of potential careers in the field of computer engineering.

TIK 20 Computer and Information Science - Open 1 credit

This course introduces students to Computer Studies concepts. Students will learn about the stages in software design, the fundamental programming constructs of sequence, selection, and repetition, the functions of internal and external computer components, the relationship among networks, operating systems, and application software and their uses, and how programming languages evolve. Students will also develop an awareness of computer-related careers.