STUDENT FRIENDLY COURSE DESCRIPTIONS – TECHNOLOGICAL AND COMPUTER STUDIES

COMPUTER STUDIES

Introduction to Computer Studies, Grade 10 – Open
ICS 2O
In this course, students will learn how to program computers using a language that is used by professional computer programmers. In addition, students will learn how computers work and how computer games and other cool computer applications are made.

This is a hands-on course where students will learn to use an industry standard computer programming language. Projects include computer game design, animation programming and robotics programming. Part of the final evaluation will be designing and programming a game or application of their choice. Problem solving using computers is one of the main themes of the course.

Prerequisite: None

Introduction to Computer Science, Grade 11 – University Preparation
ICS3U0
Students will design software such as computer games and other applications independently and as part of a team, using an industry-standard programming language using the software development process. They will also explore environmental and ergonomic issues, new areas in computer science and careers in computer-related fields.

This is a hands-on course where students will learn the Java programming language to create computer programs. Students will work in teams and individually and their final evaluation will include designing and programming a game or application of their choice.

Prerequisite: None

Computer Science, Grade 12 – University Preparation
ICS4U0
This course further develops students’ knowledge and skills in computer science. Students will use software design principles to create complex and fully documented programs, according to industry standards. Student will work in teams and will manage a large software development project, from planning through to product development and testing. Students will also investigate ethical issues in computing and further explore environmental issues, emerging technologies, areas of research in computer science, and careers in the field.

This is a project based course where students will use industry standard programming languages to create computer programs. Students will work in teams and individually and will talk to real customers to create applications that suit customer needs. The final evaluation will include designing and programming a game or application choice based on customer requirements.

Prerequisite: ICS3U0
Computer Programming, Grade 12 – College Preparation
ICS4C0

This course further develops students’ computer programming skills. Students will learn object-oriented programming concepts, create object oriented software solutions and design graphical user interfaces. Student teams will plan and carry out a software development project using industry-standard programming tools and project management techniques.

This is the College bound version of the ICS4U0 course.

Prerequisite: ICS3U0
Exploring Technologies, Grade 9 – open
T1J 1O0
In this course, students will explore several areas of technology courses offered at David Suzuki such as:

- Auto mechanics, construction and woodworking
- Graphic design, photography and digital video
- Electronics and computer technology
- Baking, food preparation, kitchen sanitation and safety (not always offered – please inquire)
- Computer aided design

This is a hands-on course where students will work on projects such as:

- Rocket designing and building
- Design and build an electronic circuit
- Basic camera skills, portraiture photography, video shot types and editing techniques.
- Baking techniques

Students will explore the design and problem solving steps used to complete these projects.

Pre requisite: None
CONSTRUCTION TECHNOLOGY

Construction Technology, Grade 10 – open
TCJ 200
In this course, students will learn woodworking while using all the woodworking machines in a state of the art shop.

This is a fun hands-on course. Students will be able to construct projects such as toolboxes, foot stools and other wooden items of their choice. They will learn how to use power and hand tools safely, measure accurately and build efficiently.

Prerequisite: None

Construction Technology, Grade 11 – open
TCJ 3C0
In this course students, will learn the homebuilding construction trades.

In this fully hands on course, students will learn how to frame wood walls, install plumbing, and electrical wiring, and hang and finish drywall professionally. Students will learn how to use hand and power tools safely to perform all these tasks. By the end of the course, they will have a good background in common home repairs which they can perform on their own home.

Prerequisite: None

Construction Technology (Woodworking), Grade 11 – open
TWJ 3E0
In this course students, will learn the cabinetmaking and woodworking trades.

In this fully hands on course, students will learn how to build cabinets and furniture. Students will learn how to use hand and power tools safely to perform all these tasks. By the end of the course, they will construct a nite stand or table of their own design as well as kitchen cabinets.

Prerequisite: None

Construction Technology, Grade 12
TCJ 4C0
In this course students, will learn the homebuilding construction trades at an advanced pre-apprenticeship level.

In this fully hands on course, students will learn advanced framing, advanced electrical wiring, and cabinetmaking. Students will learn how to use hand and power tools safely to perform all these tasks and, by the end of the course, they will have a good background so they can construct garden sheds, doghouses and kitchen cabinets.

Prerequisite: TCJ3CO
TECHNOLOGICAL DESIGN

Technological Design, Grade 10 – open
TDJ 200
Grade 10 Tech Design explores the idea of the design process that is used when developing or improving a technological design. In this course, students will apply this process in a number of hands on projects. Various sketching techniques, (freehand, isometric, orthographic), computer design programs (Autodesk), and prototype construction.

Below is a list of possible course projects:

- Ergonomic cell phone design: (sketching / computer rendering / model building)
- Dream Home Design: (computer aided floor plans)
- Gondola Project: (designing and building a powered miniature gondola)
- Maglev (Magnetic Levitated Train): (designing and building a train that floats using magnetic resistance)

Prerequisite: None

Technological Design, Grade 11 – open
TDJ 3M0
Grade 11 Tech Design continues the exploration of the design process that is used when developing or improving a technological design. In this course, students will apply this process in a number of hands on projects. Various sketching techniques, (freehand, isometric, orthographic), computer design programs (AutoCAD, SketchUP, Revit), and prototype construction will be learning in this course.

Below is a list of possible course projects:

- Concept Car design: (sketching / computer rendering / model building)
- Landscape Design: (computer aided 2D and 3D plans)
- Trebuchet Challenge: (designing and building a powered miniature gondola)
- CNC Puzzle Challenge: (designing for Computer based machining)

Prerequisite: None

Technological Design, Grade 12 – prerequisite
TDJ 4M0
Gr. 12 Tech. Design provides students with opportunities to solve problems in design through the use of technical drawings, model building, testing, and marketing. Students will research, design, and test solutions for residential or commercial architecture, industrial engineering, and manufacturing. Various sketching techniques, computer design programs, and prototype construction will be used in this course.

Below is a list of possible course projects:

- Technological Design Poster
- Library Design with model construction
- Trebuchet Challenge with model construction
- Rube Goldberg Challenge with model construction

Prerequisite: Gr. 11 Tech. Design
COMPUTER ENGINEERING TECHNOLOGY

Computer Technology, Grade 10 – open
TEJ 200
In this course, students will learn how the various components of computers work. They will study computer repair, software installation and setup, computer networking as well as general electronics including how to get computers to control other devices.

This is a hands-on course where students will learn how various electronic components used inside computers work. Projects include designing and building electronic circuits such as a blinking LED circuit, computer setup, installation and networking and computer interfacing. The course’s final project will include designing and building a device that can control a computer such as a game joystick.

Prerequisite: None

Computer Engineering Technology, Grade 11 – University/College Preparation
TEJ 3M0
In this hands-on course students will assemble computers and small networks by installing and configuring appropriate hardware and software and will build systems that use computer programs and interfaces to control and respond to external devices. Students will develop an awareness of related environmental and society issues, and will learn about college and university programs leading to careers in computer technology.

Projects include designing and building digital logic circuits such as an adder or alarm circuit, setting up computer systems using Windows, Linux or similar operating systems, install a small office network and robot programming. The course’s final project will include designing and building a device that can interface and control a small robot.

Prerequisite: None

Computer Engineering Technology, Grade 12 – University/College Preparation
TEJ 4M0
This is a project based course where students will continue their learning of computer systems and computer interfacing with external devices started in grade 11. They will assemble computer systems by installing and configuring appropriate hardware and software, and will learn more about fundamental concepts of electronics, digital circuits, robotics, programming, and networks. Students will continue to examine related environmental and societal issues, and will explore postsecondary pathways leading to careers in computer technology.

Projects include the designing and building of digital circuits such as counters, converters and memory as well as the programming of integrated controller circuits and robots.

Prerequisite: Computer Engineering Technology, Grade 11, University/College Preparation
HOSPITALITY STUDIES

Hospitality and Tourism, Grade 10 – open
TFJ2O0
Grade 10 Hospitality and Tourism introduces the world of Culinary Arts to students. Working in our modern, professional kitchen, students explore the basics of food cookery and production. Safety and sanitation, kitchen tools, measurement, and cooking and baking basics are all explored throughout this course.

Skills required: Teamwork, Communication, and Organization. Written, oral and listening skills are also very important.

Students signing up for this course should be interested in cooking, either as a life-skill or possible career choice.

Prerequisite: None

Hospitality and Tourism, Grade 11- College Preparation
TFJ3C0
This course enables students to develop or expand knowledge and skills related to hospitality and tourism, as reflected in the various sectors of the tourism industry. Students will learn about preparing and presenting food, evaluating facilities, controlling inventory, and marketing and managing events and activities such as catering for school events. Particular attention will be paid to Personal Safety and Sanitation, Nutrition and Healthy Eating, Cooking Methods and Careers related to the Hospitality Industry.

DSSS operates a Student Run Bistro, where students prepare, cook, and serve food to members of the DSSS community. The Bistro is a fast and fun way to put your cooking skills to the test.

Prospective Hospitality students need to be organized, be able to work in group settings and also communicate effectively.

Students will develop an awareness of health and safety standards, environmental and societal issues, and career opportunities in the tourism industry.

Prerequisite: None

Hospitality and Tourism, Grade 11 - Workplace Preparation
TFJ3E
This course enables students to acquire knowledge and skills related to the food and beverage services sector of the tourism industry. Students will learn how to prepare, present, and serve food using a variety of tools and equipment, and will develop an understanding of the fundamentals of providing high-quality service to ensure customer satisfaction and the components of running a successful event or activity such as catering for school events. Students will develop an awareness of health and safety practices, environmental and societal issues, and career opportunities in the food and beverage services sector.

Prerequisite: None
Hospitality and Tourism, Grade 12, College Preparation

TFJ4C0

Grade 12 Hospitality is an extension of the Grade 11 (prerequisite) Hospitality Course. Students will build on skills learned in previous courses. Particular attention will be paid to Personal Safety and Sanitation, Nutrition and Healthy Eating, Cooking Methods and Careers related to the Hospitality Industry.

DSSS operates a Student Run Bistro, where students prepare, cook, and serve food to members of the DSSS community. The Bistro is a fast and fun way to put your cooking skills to the test.

Prospective Hospitality students need to be organized, be able to work in group settings and also communicate effectively.

Prerequisite: Hospitality and Tourism, Grade 11, College Preparation
COMMUNICATIONS TECHNOLOGY

Communication Technology (Comm. Tech), Grade 10 – Open
TGJ 2O0
This course introduces students to the basics of graphic design, photography, and digital video. Comm. Tech. is taught in the tech Mac lab and explores the use of professional equipment and software to create communication products that are client and industry focused. We learn about vector graphics, logos, page layout, resolution, DSLR camera use, portrait and product photography, advertising campaigns and branding, video camera shots and editing skills.

Possible units:
- **Graphic design**, typography, logo, package and page design, using Adobe Illustrator
- **Photography**, camera skills, portraiture, still life photography, using Adobe Photoshop
- **Digital video** and cinematography, video shot types and editing techniques, using iMovie and Final Cut Pro.

Prerequisite: None

Communications Technology: TV, Video and Movie Production, Grade 11 – University/College preparation
TGV 3M0
This course is an introduction to video production and film studies. We will explore types of video camera shots, reasons for using them, styles of editing such as continuity editing, the 180-degree rule and non-linear editing. This course is hands on, focusing on operating the equipment and editing skills. Students will be working on how to effectively tell a story, how to create meaning, emotional response, suspense, and how to edit to keep the viewer’s attention.

Possible units:
- Suspense Short Film – basic camera and audio work
- The Cinepoem – SFX, green screen and experimental techniques
- Opening Sequence – pace, using creative shots for dramatic effect

Prerequisite: None
Photography and Digital Imaging, Grade 11 – University/College preparation
TGP 3M0

This Photography course provides opportunities for students to explore and learn advanced photographic skills beyond basic point shoot cameras. This tech course emphasizes hands on experimentation with various camera equipment and digital editing software. We focus on technical camera settings and industry level editing skills. We also cover composition, learning to see like a photographer, studio lighting and equipment and different types of photography, such as fashion, food, portrait, product, nature, journalism, and sports. Students will be challenged technically and creatively while developing critical thinking skills.

Possible units:
- The DSLR Camera – equipment, lenses and settings
- The Digital Darkroom – Photoshop, digital file formats, layer masks, adjustment layers
- Advanced Camera Settings – panning, stop action, motion blur, depth of field, macro
- Drawing with Light – light painting, time exposures, night photography
- Documentary Photography – narrative, telling a visual story and exploring personal style

Prerequisite: None

Communications Technology
Grade 12 – University/College preparation
TGJ 4M0

The Grade 12 Comm. Tech. course allows students to build on skills gained in their grade 11 Comm. Tech course. Students will focus on advanced areas of Video, and movie production OR Photography and digital imaging. Much of the Grade 12 course is independent and students have the opportunity to design projects of interest to them, and build a portfolio for post-secondary applications. Gr 12 students are asked to present their work to the community, either as part of a show or as part of a student film festival or competition.

Recommended Prerequisites:
Any Grade 11 Comm Tech course (ex: TGV3M0, TGP3M0, or TGJ3M0)
Communications Technology: Print and Graphic Communications (Yearbook Course)
Grade 11 – University/College preparation
TGG 3M0
The course is responsible for producing a creative, innovative yearbook, which records as many school events and memories as possible. As part of the yearbook class students will gain skills in graphic design, page layout, copywriting, journalism, and photography. Yearbook staff gain useful, real world skills in time management, teamwork, project management and technical graphic design principles. Although yearbook is an elective course, it is a very demanding course in respect to quality of work, ability to meet deadlines, and time commitment. Students need to work hard in and out of class time, but yearbook is very rewarding and a lot of fun.

Prerequisites:
- A least 70% in Grade 10 English
- A good attendance record in grade 10

Yearbook, Grade 12 – University preparation
IDC 4U0
The Grade 12 Yearbook Interdisciplinary Studies Course is a mix of English, Journalism, Art, Graphic Design, Photography and Business. This University level course can be used as part of your university average. This class is responsible for producing a creative, innovative yearbook, which records as many school events and memories as possible. Yearbook staff gain useful, real world skills in time management, teamwork, project management and technical graphic design principles. Being part of the yearbook brings with it particular privileges, special opportunities, and unique responsibilities. Students need to work hard, but yearbook is very rewarding and a lot of fun.

Prerequisites:
- A least 70% in a Grade 11 English course
- A good attendance record in grade 11

TRANSPORTATION TECHNOLOGY
Transportation Technology, Grade 10 – open
TTJ 2O
In this course, students will explore the inner workings of the internal combustion engine. Students will learn how 4 stroke, 2 stroke, diesel and rotary type engines make power. This course also looks at alternative ways to power Land, Air, Water and Space vehicles that are more environmentally friendly than gas burning type engines. Other topics covered are electricity, transmissions, fuel delivery systems, cooling systems and basic vehicle care.

This is a hands-on course where students will work on taking a 4 stroke, small engine apart and be able to identify and explain what each part does. Students will also be working on cars. They will learn how to lift a car on a hoist, perform maintenance procedures such as oil changes, tire changes, replace burned out bulbs and many more useful and employable skills to help them get an entry level job. They will do this by using a wide assortment of hand and power tools supplied in the class room.

Prerequisite: None

Transportation Technology, Grade 11 – open
TTJ 3CO
This course enables students to develop technical knowledge and skills as they study, test, service, and repair engine, electrical, suspension, brake, and steering systems on vehicles, aircraft, and/or watercraft. Students will develop communication and teamwork skills through practical tasks, using a variety of tools and equipment. Students will develop an awareness of environmental and societal issues related to transportation, and will learn about apprenticeship and college programs leading to careers in the transportation industry.

Prerequisite: None

Transportation Technology, Grade 12 – open
TTJ 4CO
This course enables students to further develop technical knowledge and skills as they study, test, service, and repair engine management systems; power trains; steering/ control, suspension, brake, and body systems on vehicles, aircraft, and/or watercraft; and/or small-engine products. Students will refine communication and teamwork skills through practical tasks, using a variety of tools and equipment. Students will expand their awareness of environmental and societal issues related to transportation and their knowledge of apprenticeship and college programs leading to careers in the transportation industry.

Prerequisite: Transportation Technology, Grade 11, College Preparation