

*Public and Catholic District School Board Writing Partnerships*

# Course Profile **Communications Technology**

Grade 11  
University/College Preparation  
TGJ3M

• *for teachers by teachers*

This sample course of study was prepared for teachers to use in meeting local classroom needs, as appropriate. This is not a mandated approach to the teaching of the course. It may be used in its entirety, in part, or adapted.

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### **Acknowledgments**

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## Course Overview

# Communications Technology, Grade 11, University/College Preparation, TGJ3M

## Course Description

This course examines communications systems and design and production processes in the areas of electronic, live, recorded, and graphic communications. Students develop knowledge and skills relating to the assembly, operation, maintenance, and repair of the basic and more complex components of a range of communications systems. Students also study industry standards, regulations, and health and safety issues. They explore careers, the importance of lifelong learning, and the impact of communications technology on society and the environment.

The course is divided into four units: Graphic Promotion and Communication; Studio Production; Digital Video and Imaging; and Interactive Media.

## How This Course Supports the Ontario Catholic School Graduate Expectations

The role of Technological Education in the Catholic faith community is to enable students to develop and utilize their gifts and talents while creating products that benefit others in a way that models gospel values. The focus of the curriculum is to enable students to become critical and innovative problem-solvers who question the use of resources and understand the implications of technological innovations. An emphasis on process as well as results ensures that students create products and provide services that recognize our God-given responsibility to respect the dignity and value of the individual and the community.

## Course Notes

The organization of this course profile into four units - Graphic Promotion and Communication, Studio Production, Digital Video and Imaging, and Interactive Media - derives from the interrelated and interdependent nature of live, electronic, recorded, and graphic communications systems in their application to real-world communications challenges. Each unit reflects typical ways in which communications technologies are applied. Each unit is built around a central task, containing individual but cumulative activities. Activities have been structured to focus on a limited number of expectations from one or two Achievement Chart categories. Within this framework, students have the opportunity to demonstrate self-direction by making choices about the specific content of each unit task. In addition, the repetition of most expectations within separate units provides students opportunities to meet most course expectations more than once in different contexts.

Student work is expected to contain positive images of people regardless of age, physical appearance, socio-economic status, disability, race, or gender. Any stereotypes, acts of violence, sexually-oriented themes, or use of profanity is unacceptable. In addition to the specific skills that are developed throughout the course, students learn to:

- solve problems through careful analysis, cooperation, and communication;
- develop individual and group skills through student-centred activities;
- develop time-management skills to design and follow organizational plans to complete a range of tasks;
- show commitment to a task by maintaining a level of effort required to complete a product;
- develop the ability to self-monitor progress using record-keeping and tracking procedures such as logs, journals, and project portfolios.

Each unit enables students to focus on specific career options and gain insights into the skills required for a variety of jobs. A number of teaching/learning strategies employed in the classroom allow for career orientation, including computer research, field trips, and guest speakers.

Teachers address safety/censorship on the Internet by implementing School Board Policies relating to appropriate student use and access to Internet services.

### Unit: Titles and Times

Unit 1	Graphic Promotion and Communication	27.5 hours
* Unit 2	Studio Production	27.5 hours
* Unit 3	Digital Video and Imaging	27.5 hours
Unit 4	Interactive Media	27.5 hours

\* These units are fully developed in this Course Profile.

### Unit Descriptions

#### Unit 1: Graphic Promotion and Communication

##### Unit Description

In this unit, students explore the concepts and processes of graphic production for the purposes of graphic promotion and communication. Students develop an understanding of graphic processes employed to promote products, businesses, and services. Students further develop their design and problem-solving skills and increase their knowledge of two- and three-dimensional graphic applications and production techniques. This unit integrates an exploration of potential careers in graphic production and advertising. Students demonstrate their learning through discussions, research, technical and presentation graphics, and the preparation of working models.

##### Unit Overview Chart

Activity	Expectations	Assessment	Focus
1: The Role of Graphic Processes in Graphic Communications	ICV.01, ICV.03 TF1.01, IC1.01, IC1.02, IC1.03 CGE: 2a, b, c, d, e; 3b, c, d, e; 4a, b, c, e, f; 5a, e, f, g; 7b, i, j	Knowledge/ Understanding Communication	Types and standards of graphic processes
2: Creating and Designing Graphic Material	TFV.01, SPV.01, SPV.02 TF1.01, TF1.02, SP1.01, SP1.05, SP2.01, SP2.02, TF2.05, TF3.01, TF3.03 CGE: 2a, b, c, d, e; 3b, c, d, e; 4a, b, c, e, f; 5a, e, f, g; 7b, i, j	Knowledge/ Understanding Application	Creating the graphic identity for a graphic enterprise
3: Packaging and Promotion	SP1.02, SP1.05, SP1.06, SP2.02, SP2.04, SP3.03, SP3.04 CGE: 2a, b, c, d, e; 3b, c, d, e; 4a, b, c, e, f; 5a, e, f, g; 7b, i, j	Application	Design and layout of three-dimensional packaging and promotion
4: Presenting Graphic Concepts	ICV.01 SP1.03, SP1.07, SP4.02, SP4.03, IC1.03 CGE: 2a, b, c, d, e; 3b, c, d, e; 4a, b, c, e, f; 5a, e, f, g; 7b, i, j	Communication Application	Presentation techniques and applications

## Unit 2: Studio Production

### Unit Description

In this unit, students explore the skills and concepts of studio production in the creation of a newsmagazine. This program format allows for inclusion of interviews, reports, or group discussions dealing with a variety of issues or events within the school or community. Students develop an understanding of how studio productions are developed through pre-production, production, and post-production activities. This unit introduces students to potential careers associated with audio/visual production. Students develop their design and problem-solving skills and increase their knowledge of media production. Students demonstrate their knowledge and skills through a research report on careers and industry standards; written tests and activities; practical assignments; and the preparation and use of the studio environment for a variety of production purposes.

### Unit Overview Chart

Activity	Expectations	Assessment	Focus
1: Requirements of Production and Roles/Careers in the Studio	ICV.03 TF3.02, IC3.01, IC3.02, IC3.03, IC3.04, IC3.05 CGE: 2a, b, c, d, e; 3b, c, d, e; 4a, b, c, e, f; 5a, e, f, g; 7b, i, j	Knowledge/ Understanding Thinking/ Inquiry Communication	Plan all requirements and set up all necessary equipment for the studio production. Prepare report on career paths for selected production roles.
2: Lighting in the Studio: basics, safety, efficiency, and techniques	TFV.02, TFV.04, SPV.05, ICV.02 SP1.05, SP3.02, SP4.01, IC2.01, IC2.02, IC2.03, TF2.07, SP1.01, SP2.03, SP3.04, SP4.03, SP4.04 CGE: 2a, b, c, d, e; 3b, c, d, e; 4a, b, c, e, f; 5a, e, f, g; 7b, i, j	Knowledge/ Understanding Communication Application	Acquire knowledge and practical skills applicable to the operation and use of various types of lighting equipment.
3: Audio in the Studio: principles of sound, equipment, and storage	TFV.02, TFV.03, TFV.04, SPV.03 TF2.01, TF2.03, TF2.04, TF2.05, TF2.07, TF3.02, TF3.03, SP1.03, SP2.01, SP2.03, SP4.03 CGE: 2a, b, c, d, e; 3b, c, d, e; 4a, b, c, e, f; 5a, e, f, g; 7b, i, j	Knowledge/ Understanding Communication Application	Acquire knowledge and practical skills applicable to the operation and use of various types of audio equipment.
4: Video in the Studio: equipment, techniques, program development, program production, shutdown, and storage	TFV.02, TFV.03, SPV.01, SPV.02, SPV.03, SPV.04, ICV.01, ICV.02 TF1.01, TF2.01, TF2.03, TF2.04, TF2.06, TF2.07, SP1.01, SP1.02, SP1.03, SP1.04, SP1.06, SP1.07, SP2.01, SP2.02, SP2.03, SP2.05, SP2.06, SP2.07, SP3.01, SP3.04, SP4.02, IC2.01, IC2.02 CGE: 2a, b, c, d, e; 3b, c, d, e; 4a, b, c, e, f; 5a, e, f, g; 7b, i, j	Knowledge/ Understanding Communication Thinking and Inquiry Application	Acquire knowledge and practical skills applicable to the operation and use of various types of audio/video and lighting equipment.

## Unit 3: Digital Video and Imaging

### Unit Description

This unit introduces students to the processes involved with digital image production. Students examine fundamental digital concepts, basic equipment functions, and their interface with computer technology. Students investigate the process of digitization and the transfer of data through the use of still and moving images in audio/video, recording, and photographic media. Emphasis is placed on the set-up, testing, and maintenance of the systems, (i.e., hardware, software, peripheral relationships, and connectivity), necessary to create digital productions. Critical evaluation and problem solving help students make decisions in light of gospel values with an informed moral conscience.

### Unit Overview Chart

Activity	Expectations	Assessment	Focus
1: Still Image Storyboarding	TFV.01, TFV.03, SPV.01, SPV.02, ICV.03 TF2.02, TF2.05, TF2.07, TF3.03, SP1.01, SP1.02, SP1.03, SP1.04, SP1.05, SP1.06, SP1.07, SP2.01, SP2.02, SP3.01, SP4.02, IC2.01 CGE: 2b, c, e; 3b, c, e; 4a, e, f; 5a, e, g; 7b, j	Knowledge/ Understanding Thinking/ Inquiry Communication Application	Digitization techniques and manipulation of still images
2: The Power of Audio	TFV.01, TFV.03, TFV.04, SPV.02, ICV.03, ICV.04 TF2.02, TF2.03, TF2.11, TF3.01, IC3.01 CGE: 2a, b, c; 3b, c; 4b, e, f; 5a, e, f; 7b, j	Knowledge/ Understanding Thinking/ Inquiry Communication Application	Digital audio techniques
3: Community Service Announcement	TFV.01, TFV.02, TFV.03, TFV.04, SPV.01, SPV.02, SPV.04, ICV.03 TF2.02, TF2.03, TF2.04, TF3.02, SP1.01, SP1.02, SP1.04, SP1.05, SP1.07, SP2.01, SP2.02, SP2.07, SP3.01, SP4.01, SP4.02, SP4.03, IC1.02, IC3.01, IC3.04 CGE: 1d; 2c, e; 3b, c, d, e; 4b, c, d, f, g; 5a, c, f, g; 7b, e, j	Knowledge/ Understanding Thinking/ Inquiry Communication Application	Integration and editing of digital images
4: "Re-purposing" Digital Video - Digital Editing Output Options	TFV.02, TFV.04, SPV.02, SPV.03, SPV.05, ICV.03 TF1.01, TF2.02, TF2.04, TF2.05, TF2.06, TF3.02, TF3.03, SP1.06, SP1.07, SP2.02, SP4.03, SP4.04, IC1.02, IC3.05 CGE: 2c, f; 3c, e; 4b, e, f; 5a, e, f; 7b, j	Knowledge/ Understanding Thinking/ Inquiry Communication Application	The process of digital output and output options

## Unit 4: Interactive Media

### Unit Description

This unit gives students the opportunity to develop an understanding of interactive media. Students complete a series of activities that investigate uses for interactive technology with presentation, multimedia, communication, and scripting software. Students demonstrate their learning through the design, set-up, testing, and maintenance of the systems, (i.e., hardware, software, peripheral relationships, and connectivity), necessary to create interactive projects. Emphasis is placed on creative problem solving and project management. Students are encouraged to reflect on the ethics relating to technological applications and in developing positive solutions to community issues.

### Unit Overview Chart

Activity	Expectations	Assessment	Focus
1: Community Service Presentation	TFV.01, TFV.02, TFV.03, TFV.04, SPV.01, SPV.02, SPV.03, SPV.04, ICV.03 TF1.02, TF2.05, TF2.06, TF2.07, TF3.01, TF3.02, TF3.03, SP1.02, SP1.03, SP1.04, SP1.06, SP2.01, SP2.02, SP2.03, SP3.01, SP3.03, SP4.02, SP4.03, IC2.01, IC2.02 CGE: 2c, e; 3b, c, e; 4a, b, f; 5a, e, f; 7b, j	Knowledge/ Understanding Thinking/ Inquiry Communication Application	Presentation software applications
2: Multimedia Career Presentation	TFV.01, TFV.02, TFV.03, TFV.04, SPV.01, SPV.02, SPV.03, ICV.03, ICV.04 TF1.02, TF2.05, TF2.06, TF2.07, TF3.01, TF3.02, TF3.03, SP1.02, SP1.03, SP1.04, SP1.06, SP2.01, SP2.02, SP2.03, SP3.01, SP3.03, SP4.02, SP4.03, IC2.01, IC2.02 CGE: 2a, b, c; 3b, c; 4a, b, e, f; 5e, g; 7b, j	Knowledge/ Understanding Thinking/ Inquiry Communication Application	Multimedia software applications
3: Co-curricular Activities Web Design	TFV.01, TFV.02, TFV.03, TFV.04, SPV.01, SPV.02, SPV.03, ICV.03, ICV.04 TF1.02, TF2.05, TF2.06, TF2.07, TF3.01, TF3.02, TF3.03, SP1.02, SP1.03, SP1.04, SP1.06, SP2.01, SP2.02, SP2.03, SP3.01, SP3.03, SP4.02, SP4.03, IC2.01, IC2.02 CGE: 2a, b, c, e; 3b, c, e; 4b, f; 5a, e, g; 7b, j	Knowledge/ Understanding Thinking/ Inquiry Communication Application	Web-based applications
4: Interactive Portfolio/Resume	TFV.01, TFV.02, TFV.03, TFV.04, SPV.01, SPV.02, SPV.03, ICV.01, ICV.03, ICV.04 TF1.02, TF2.05, TF2.06, TF2.07, TF3.01, TF3.02, TF3.03, SP1.02, SP1.03, SP1.04, SP1.06, SP1.07, SP2.01, SP2.02, SP2.03, SP2.04, SP2.06, SP2.07, SP3.01, SP3.03, SP4.02, SP4.03, IC2.01, IC2.02 CGE: 2b, c, e; 3b, c, e; 4a, b, c, e, f, g; 5a, c, e, f; 7b, j	Knowledge/ Understanding Thinking/ Inquiry Communication Application	Tying it all together - an interactive resume/portfolio

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## Teaching/Learning Strategies

*Brainstorming* – group generation of initial ideas expressed without criticism or analysis

*Collaborative/Cooperative Learning* – small-group learning and decision making providing high levels of student engagement and interdependence

*Computer-assisted Learning* – learning of new material through on-line methods of instruction

*Conferencing/Discussion* – student-to-student discussion and teacher-to-student conferencing to encourage confidence and motivation to success in all learners

*Design Process* – the stages of development of a product or process, including developing a focus, developing a framework, choosing the best solution, implementing a plan, and reflecting on the process and the product

*Independent Study* – exploration and research of a topic interesting to students

*Log/Journal Writing* – the practice of expressing ideas, experiences, questions, reflections, personal understanding, or new learning in written form on a regular basis

*Problem Solving* – identifying and working through a problem

*Report/Presentation* – oral, visual, written, and electronic presentation of researched topic to class

*Socratic Lesson* – oral presentation of information by the teacher

*Teacher-directed Class Discussion* – students actively participate by taking turns discussing current issues

## Assessment & Evaluation of Student Achievement

### Assessment/Evaluation Techniques

#### Paper-and-Pencil Tests

- Quiz, structured response
- Final evaluation (rubric, tests)

#### Performance Assessment

- Research project
- Assigned exercises
- Log/journal entries
- Presentation
- Finished product
- Project portfolio (Students prepare a digital portfolio of exemplary work as a culminating activity.)

#### Personal Communication

- Conferencing
  - Student-teacher
  - Teacher-group
- Self-/peer assessment
- Daily log/journal
- Ongoing verbal feedback
- Critique self/peer

#### Teacher Observation

- Formal/informal

#### Reflection

- Self-/peer assessment
- Log/journal

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## Assessment Tools

- Checklists
- Marking schemes
- Project specification sheets
- Rubrics
- Anecdotal comments with suggestions for improvement

## Assessment Methods

*Diagnostic* – occurs at the beginning of a term, a unit of study, or whenever information about prior learning is useful.

*Formative* – provides ongoing feedback to the teacher during learning about the quality of learning and the effectiveness of instruction.

*Summative* – is usually carried out at the end of a learning process (may include feedback and/or judgment).

## Evaluation

Communications Technology activities are project driven and yield tangible products. Projects fuel the need for students to acquire specific skills and attain a deeper understanding of communications technology. The skills and knowledge reflect the expectations set by the curriculum. The level of achievement on each expectation measures student achievement.

Evaluation in skill development involves assessing the process and product. Checklists are commonly used to monitor and evaluate steps in a production process, such as the completion of planning documents. Significant aspects of the completed product or service are identified and commonly evaluated with rating scales. Checklists and rating scales are effective tools for self-assessment as they establish acceptable standards of competence. These forms provide the student and teacher with an up-to-date and ongoing means of monitoring the level of achievement attained. Teacher/student conferencing during pre-production, production, and post-production provides clarity and maintains the expected standards. The addition of a peer assessment component, especially in group work, also helps to identify reasonable expectations.

- Self-assessment helps students develop a sense of responsibility for their own learning. It encourages students to reflect on their growth and learning, giving them a sense of where they have been, where they are, and where they are going.
- Through modelling and coaching, teachers can help students to provide constructive and supportive feedback to themselves and to one another.

Performance tests are effective for assessing the achievement of knowledge and skills. Evaluation should include a variety of assessment means such as rubrics, checklists, and quizzes. The vocabulary used in the test questions should reflect that used in the learning situation. The option for oral testing and student demonstrations of acquired skills should also be used. Although students are encouraged to write answers in proper sentence form, diagrammatic answers are effective assessment instruments in technological education. In their planning and implementation of projects, work assignments, and problem-solving activities, students demonstrate their ability to combine skills and knowledge successfully in practical tasks.

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## **Evaluation of Student Achievement**

Assessment instruments provide information about student achievement. Learning skills, effort, punctuality, and recorded absences are reported separately and are not considered in the determination of the percentage grade. Assessment instruments may appear in more than one evaluation category. Seventy per cent of the grade will be based on assessments and evaluations conducted throughout the course. Thirty per cent of the grade will be based on a final evaluation in the form of an examination, performance, essay, and/or other method of evaluation.

## **Accommodations**

Teachers using this course profile are expected to be acquainted with each student's Individual Education Plan (IEP) and unique learning characteristics and to make the necessary accommodations.

Teachers should use a range of teaching/learning strategies to accommodate the needs of all students. Special needs students benefit from accommodations in the overall activity criteria, as well as teacher and peer assistance where appropriate. Written tests should be designed to suit students' reading and writing levels. Teachers should modify and expand teaching strategies to accommodate learning styles. These may include:

- modifying approaches to evaluation;
- oral instead of written tests;
- demonstrations of acquired skills instead of written evaluations;
- providing rewrite opportunities as appropriate;
- conferencing/discussion – student-to-student discussion and teacher-to-student conferencing to encourage confidence and motivation;
- small-group learning;
- flexible timelines;
- adapting handouts;
- peer tutoring;
- enrichment and extension activities.

## **Resources**

A number of resources are included in this profile. Each activity lists specific resources that may include:

- textbooks;
- training manuals;
- magazines;
- websites;
- multimedia and presentation packages;
- videos;
- on-line tutorials;
- career/industry sources.

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## Websites

**Note:** The URLs for the websites have been verified by the writers prior to publication. Given the frequency with which these designations change, teachers should always verify the websites prior to assigning them for student use.

<http://www.curriculum.org>

Ministry-approved resources, course profiles, and links to other educational sites

Educational Computing Organization of Ontario (ECOO)

<http://www.ecoo.org/>

Resources for teachers and links to other educational sites

Education Network of Ontario (ENO)

<http://www.enoreo.on.ca/>

Resources for teachers and links to other educational sites

Media Awareness Network

<http://www.media-awareness.ca/>

Practical support for teaching media in the classroom with links to other sites

Ontario Ministry of Education

<http://www.edu.gov.on.ca/>

Ministry site with up-to-date information and useful links

School Net

<http://www.schoolnet.ca/>

Learning resources, programs, and links to other educational sites

Technology Educators of Ontario (TEO)

<http://www.octe.on.ca/>

Learning resources, programs, and links to other educational sites

TV Ontario (Educational Programming & Services)

<http://www2.tvo.org/eduprog/>

Learning resources, programs, and links to other educational sites

TV Ontario (Edulinks)

<http://www2.tvo.org/edulinks/>

Technological Education page with lesson plans and other resources to meet curriculum expectations using Internet-based resources. Links to other educational sites

TV Ontario (Pdonline)

<http://www.tvo.org/pdonline/>

Professional development for teachers on-line with links to other useful educational sites

TV Ontario (OESS)

<http://www.tvo.org/oess/>

Ontario Education Software Service – Ministry-licensed educational software

YTV (InClass)

<http://inclass.ytv.com/>

Media-related teacher resources and links to other sites

Women in Trades & Technology Network

<http://www.wittnn.com/>

An education and advocacy organization dedicated to promoting and assisting in the recruitment, training, and retention of women in trades and technology. Useful links to other sites

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## **OSS Considerations**

Students are introduced to practical aspects of communications technology using electronic, live, and graphic communications methods. The curriculum provides opportunities for students to undertake hands-on practical activities, as well as to conduct research and analysis. There is a range of teaching/learning strategies and accommodations to meet the needs of all students. Anti-discrimination education, equity/social justice issues, career goals/cooperative education, conflict resolution/violence prevention, and community partnerships are addressed in the course. These support many of the Ontario Secondary School Policies. Career exploration throughout all units is made available with *Choices Into Action: Guidance and Career Education Program Policy for Elementary and Secondary Schools, 1999*.

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## **Coded Expectations, Communications Technology, Grade 11, University/College Preparation, TGJ3M**

### **Theory and Foundation**

#### **Overall Expectations**

- TFV.01** · apply the design process to develop solutions, products, processes, or services in response to challenges or problems in electronic, live, recorded, or graphic communications;
- TFV.02** · identify and describe the components and processes that make up each of the following: electronic, live, recorded, and graphic communications;
- TFV.03** · explain how basic communications systems function and describe the knowledge required to manage a range of communications systems;
- TFV.04** · describe industry standards, regulations, and formats that apply to communications technology.

#### **Specific Expectations**

##### **The Design Process**

- TF1.01** – explain how a human need or want can be met through a new or improved product;
- TF1.02** – apply the following steps of the design process to solve a variety of communications technology challenges or problems:
- identify what has to be accomplished (the problem);
  - gather and record information, and establish a plan of procedures;
  - brainstorm a list of as many solutions as possible;
  - identify the resources required for each suggested solution, and compare each solution to the design criteria, refining and modifying it as required;
  - evaluate the solutions (e.g., by testing, modelling, and documenting results) and choose the best one;
  - produce a drawing, model, or prototype of the best solution;
  - evaluate the prototype and what is required to produce it;
  - communicate the solution, using one or more of the following: final drawings, technical reports, electronic presentations, flow charts, storyboards, mock-ups, prototypes, and so on;
  - obtain feedback on the final solution and repeat the design process if necessary to refine or improve the solution.

##### **Components, Systems, and Processes**

- TF2.01** – explain the basic electronic communications system (how energy is converted into an electrical signal, amplified, transmitted by physical or atmospheric channels, decoded, and converted to sound);
- TF2.02** – describe the processes of analog-digital and digital-analog signal conversion;
- TF2.03** – explain how electricity and magnetism form the basis for audio and video communications;
- TF2.04** – demonstrate a working knowledge of amplification and signal processing;
- TF2.05** – identify the advantages of various formats for specific applications;
- TF2.06** – summarize the configurations for a variety of electronic, live, recorded, and graphic systems, and develop a plan to set up and manage the systems;
- TF2.07** – evaluate component properties and select the most appropriate components for a particular process.

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## Standards

- TF3.01** – outline guidelines, conventions, and rules used in the composition and design of a communications process;
- TF3.02** – research appropriate production techniques and recommend processes that adhere to industry standards;
- TF3.03** – select the appropriate formats for electronic, live, recorded, and graphic productions.

## Skills and Processes

### Overall Expectations

- SPV.01** · effectively plan, organize, direct, and control a variety of communications activities;
- SPV.02** · use current technology and production skills to develop a process or a product in response to a communications challenge or problem;
- SPV.03** · set up, operate, and maintain a communications system and analyse its efficiency;
- SPV.04** · use effective techniques to carry out and document the steps in pre-production, production, and post-production;
- SPV.05** · use mathematical and language skills effectively and apply scientific principles in the design of electronic, live, recorded, and graphic communications systems.

### Specific Expectations

#### Organizational Skills

- SP1.01** – demonstrate the interpersonal skills required for effective teamwork;
- SP1.02** – function effectively as individuals and as members of a cooperative team to produce a product or service;
- SP1.03** – demonstrate the time management and problem-solving skills required to complete projects;
- SP1.04** – accurately document planning and production processes;
- SP1.05** – effectively apply a variety of planning tools (e.g., storyboards, flow charts, schematic diagrams);
- SP1.06** – select and use appropriate software to manage the production process;
- SP1.07** – use time management schemes to ensure that their productions meet client deadlines.

#### Production Skills

- SP2.01** – set up and correctly operate the equipment and accessories required to create and modify environments for communications productions (e.g., video and audio editing suites, desktop publishing configurations, live and recorded productions, electronic communication systems, websites);
- SP2.02** – select and use tools and equipment to solve a communications problem;
- SP2.03** – operate control devices and components to manipulate or create communications technology projects;
- SP2.04** – develop and interpret technical and artistic drawings, reports, instructions, manuals, on-line documentation, and specifications to help solve a communications problem;
- SP2.05** – set up and operate communications equipment (e.g., transmitters and receivers, frequency and phase modulation equipment, antennas, two-way communications equipment);
- SP2.06** – troubleshoot a communications system to remove any obstacles to its effective operation;
- SP2.07** – design and set up a communications system (e.g., a computer network, audio and video editing systems, lighting grids) to perform production and post-production processes.

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## **Documentation and Standards**

**SP3.01** – use a variety of methods to document the planning and production processes;

**SP3.02** – use specific gauges and meters to monitor, test, and modify processes or systems to ensure adherence to industry-recognized standards;

**SP3.03** – use industry-standard guidelines, conventions, and rules for composition and design;

**SP3.04** – use colour theory and colour standards to create presentations that adhere to industry standards.

## **Interdisciplinary Applications**

**SP4.01** – apply mathematics accurately in spreadsheets and when calculating electrical current, resistance, and energy consumption;

**SP4.02** – use appropriate language in flow charts, storyboards, operation charts, scripts, and presentations;

**SP4.03** – use terminology that is recognized by the communications industry;

**SP4.04** – apply scientific principles related to light, magnetism, and basic digital fundamentals.

## **Impact and Consequences**

### **Overall Expectations**

**ICV.01** · describe the social, environmental, and economic impacts of communications technology;

**ICV.02** · demonstrate an understanding of the health and safety rules and regulations applicable to a communications technology program;

**ICV.03** · identify career opportunities in the communications technology sector and the skills, education, and training required for each.

### **Specific Expectations**

#### **Impacts**

**IC1.01** – describe social, environmental, and economic influences that affect the evolution of the communications industry;

**IC1.02** – explain how communications technology has contributed to globalization and has influenced economic and social issues;

**IC1.03** – describe how communications technology plays a vital role in the production, promotion, and maintenance of different products.

#### **Safety and Legislation**

**IC2.01** – apply safe work practices when performing communications processes;

**IC2.02** – identify potential hazards in their workplace by conducting safety audits and inspections;

**IC2.03** – describe specific components of the Occupational Health and Safety Act that relate to their workplace and the actions required on their part to adhere to them;

**IC2.04** – describe the Workplace Hazardous Materials Information System (WHMIS) and explain the importance of consulting material safety data sheets (MSDS) whenever appropriate.

#### **Education, Training, and Career Opportunities**

**IC3.01** – explore communications programs offered by postsecondary institutions;

**IC3.02** – describe the personal attributes required for careers in the creative, management, and skilled trade areas of the communications sector;

**IC3.03** – distinguish among the careers of technician, technologist, and engineer and identify the education required for each;

**IC3.04** – describe the roles of unions, guilds, and associations in the communications sector;

**IC3.05** – explain the importance of lifelong learning for individuals in the communications technology sector.

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## Ontario Catholic School Graduate Expectations

The graduate is expected to be:

### A Discerning Believer Formed in the Catholic Faith Community who

- CGE1a** -illustrates a basic understanding of the **saving story** of our Christian faith;
- CGE1b** -participates in the **sacramental life** of the church and demonstrates an understanding of the centrality of the Eucharist to our Catholic story;
- CGE1c** -actively reflects on **God’s Word** as communicated through the Hebrew and Christian scriptures;
- CGE1d** -develops attitudes and values founded on Catholic **social teaching** and acts to promote social responsibility, human solidarity and the common good;
- CGE1e** -speaks the **language of life**... “recognizing that life is an unearned gift and that a person entrusted with life does not own it but that one is called to protect and cherish it.” (Witnesses to Faith)
- CGE1f** -seeks intimacy with God and celebrates **communion** with God, others and creation through prayer and worship;
- CGE1g** -understands that one’s purpose or **call in life** comes from God and strives to discern and live out this call throughout life’s journey;
- CGE1h** -respects the **faith traditions**, world religions and the life-journeys of **all people of good will**;
- CGE1i** -integrates faith with life;
- CGE1j** -recognizes that “sin, human weakness, conflict and forgiveness are part of the human journey” and that the cross, the ultimate sign of forgiveness is at the heart of **redemption**. (Witnesses to Faith)

### An Effective Communicator who

- CGE2a** -listens actively and critically to understand and learn in light of gospel values;
- CGE2b** -reads, understands and uses written materials effectively;
- CGE2c** -presents information and ideas clearly and honestly and with sensitivity to others;
- CGE2d** -writes and speaks fluently one or both of Canada’s official languages;
- CGE2e** -uses and integrates the Catholic faith tradition, in the critical analysis of the arts, media, technology and information systems to enhance the quality of life.

### A Reflective and Creative Thinker who

- CGE3a** -recognizes there is more grace in our world than sin and that hope is essential in facing all challenges;
- CGE3b** -creates, adapts, evaluates new ideas in light of the common good;
- CGE3c** -thinks reflectively and creatively to evaluate situations and solve problems;
- CGE3d** -makes decisions in light of gospel values with an informed moral conscience;
- CGE3e** -adopts a holistic approach to life by integrating learning from various subject areas and experience;
- CGE3f** -examines, evaluates and applies knowledge of interdependent systems (physical, political, ethical, socio-economic and ecological) for the development of a just and compassionate society.

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**A Self-Directed, Responsible, Life Long Learner** who

- CGE4a** -demonstrates a confident and positive sense of self and respect for the dignity and welfare of others;
- CGE4b** -demonstrates flexibility and adaptability;
- CGE4c** -takes initiative and demonstrates Christian leadership;
- CGE4d** -responds to, manages and constructively influences change in a discerning manner;
- CGE4e** -sets appropriate goals and priorities in school, work and personal life;
- CGE4f** -applies effective communication, decision-making, problem-solving, time and resource management skills;
- CGE4g** -examines and reflects on one's personal values, abilities and aspirations influencing life's choices and opportunities;
- CGE4h** -participates in leisure and fitness activities for a balanced and healthy lifestyle.

**A Collaborative Contributor** who

- CGE5a** -works effectively as an interdependent team member;
- CGE5b** -thinks critically about the meaning and purpose of work;
- CGE5c** -develops one's God-given potential and makes a meaningful contribution to society;
- CGE5d** -finds meaning, dignity, fulfillment and vocation in work which contributes to the common good;
- CGE5e** -respects the rights, responsibilities and contributions of self and others;
- CGE5f** -exercises Christian leadership in the achievement of individual and group goals;
- CGE5g** -achieves excellence, originality, and integrity in one's own work and supports these qualities in the work of others;
- CGE5h** -applies skills for employability, self-employment and entrepreneurship relative to Christian vocation.

**A Caring Family Member** who

- CGE6a** -relates to family members in a loving, compassionate and respectful manner;
- CGE6b** -recognizes human intimacy and sexuality as God given gifts, to be used as the creator intended;
- CGE6c** -values and honours the important role of the family in society;
- CGE6d** -values and nurtures opportunities for family prayer;
- CGE6e** -ministers to the family, school, parish, and wider community through service.

**A Responsible Citizen** who

- CGE7a** -acts morally and legally as a person formed in Catholic traditions;
- CGE7b** -accepts accountability for one's own actions;
- CGE7c** -seeks and grants forgiveness;
- CGE7d** -promotes the sacredness of life;
- CGE7e** -witnesses Catholic social teaching by promoting equality, democracy, and solidarity for a just, peaceful and compassionate society;
- CGE7f** -respects and affirms the diversity and interdependence of the world's peoples and cultures;
- CGE7g** -respects and understands the history, cultural heritage and pluralism of today's contemporary society;
- CGE7h** -exercises the rights and responsibilities of Canadian citizenship;
- CGE7i** -respects the environment and uses resources wisely;
- CGE7j** -contributes to the common good.

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## Unit 2: Studio Production

**Time:** 27.5 hours

### Unit Description

In this unit, students explore the skills and concepts of studio production in the creation of a news magazine. This program format allows for inclusion of interviews, reports, or group discussions dealing with a variety of issues or events within the school or community. Students develop an understanding of how studio productions are developed through pre-production, production, and post-production activities. This unit introduces students to potential careers associated with audio/visual production. Students develop their design and problem-solving skills and increase their knowledge of media production. Students demonstrate their knowledge and skills through a research report on careers and industry standards; written tests and activities; practical assignments; and the preparation and use of the studio environment for a variety of production purposes.

### Unit Synopsis Chart

Activity	Time	Expectations	Assessment	Task(s)
1.1: Requirements of Production	2.5 hours	TFV.03, IC3.03	Knowledge Communication	Research personnel, equipment, and space requirements for studio productions
1.2: Roles and Careers in the Studio	2 hours	ICV.03, IC3.01, IC3.02, IC3.04, IC3.05	Thinking Communication	Prepare report on career paths for selected production roles
2.1: Basics of Light and Lighting Sources	2.5 hours	TFV.02, SP3.02	Knowledge	Complete table of definitions and uses
2.2: Safe and Efficient Lighting	2 hours	TFV.04, SPV.05, ICV.02, SP1.05, SP3.02, SP4.01, IC2.01, IC2.02, IC2.03	Knowledge	Prepare table of calculations for lighting scenarios
2.3: Lighting Techniques	2.5 hours	TF2.07, SP1.01, SP2.03, SP2.04, SP4.03, SP4.04	Communication Application	Student demonstration of three-point lighting
3.1: Principles of Sound Pickup and Generation	1 hour	TFV.02, TF2.01, TF2.03, TF2.04	Knowledge	Research of pickup and generation of sound to complete question sheet
3.2: Sound Equipment and Storage	1 hour	TFV.03, TFV.04, TF2.05, SP4.03	Knowledge	Research studio sound equipment
3.3: Exploring Sound Aesthetics	3.5 hours	TF2.07, TF3.02, TF3.03, SPV.03, SP1.03, SP2.01, SP2.03	Communication Application	Produce audio/video tape demonstrating control of sound aesthetics

4.1: Video Equipment and Techniques	2 hours	TFV.02, TFV.03, TF2.01, TF2.03, TF2.04	Knowledge	Research of video equipment and techniques to complete question sheet
4.2: Program Development	1 hour	TF1.01, SP1.01	Thinking Communication	Begin video program development plan by completing role assignment and treatment forms
4.3: Segment Development	1 hour	TF2.06, TF2.07, SPV.04, SP1.04, SP2.02, SP2.07, SP4.02	Thinking Communication Application	Complete video program development plan by preparing production planning documents
4.4: Blocking and Rehearsal	1 hour	SPV.01, ICV.02, SP1.01, SP1.05, SP1.06, SP1.07, SP2.05, SP2.06	Thinking Application	Segment rehearsal
4.5: Technical Set-up and Rehearsal	1 hour	SPV.01, SPV.03, ICV.02, SP1.01, SP1.05, SP2.01, IC2.01, IC2.02	Thinking Application	Technical rehearsal
4.6: Program Production	4 hours	SPV.01, SPV.02, ICV.02, SP1.02, SP1.03, SP1.05, SP2.03, SP2.07, SP3.04, IC2.01	Application	Videotape live segment
4.7: Shutdown and Storage	0.5 hour	SPV.01, ICV.02, SP1.02, SP3.01	Application	Equipment storage

## Activity 1: Requirements of Production and Roles/Careers in the Studio

**Time:** 270 minutes

### Description

This planning activity requires groups of students to establish a purpose for their production segment and explore and catalogue the studio equipment and technical requirements necessary to complete the chosen segment. In addition, students work independently to investigate the variety of occupations associated with audio/visual studio production. After identifying the various occupations, students prepare a detailed report outlining the secondary and/or postsecondary education and training required in gaining employment in this field of technology.

### Strand(s) & Learning Expectations

**Strand(s):** Theory and Foundation, Skills and Processes, Impact and Consequences

#### Overall Expectations

TFV.03 - explain how basic communications systems function and describe the knowledge required to manage a range of communications systems;

ICV.03 - identify career opportunities in the communications technology sector and the skills, education, and training required for each.

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### **Specific Expectations**

IC3.01 - explore communications programs offered by postsecondary institutions;

IC3.02 - describe the personal attributes required for careers in the creative, management, and skilled trade areas of the communications sector;

IC3.03 - distinguish among the careers of technician, technologist, and engineer and identify the education required for each;

IC3.04 - describe the roles of unions, guilds, and associations in the communications sector;

IC3.05 - explain the importance of lifelong learning for individuals in the communications technology sector.

### **Prior Knowledge & Skills**

Students who have taken Integrated Technologies and/or Grade 10 Communications Technology may have operational or planning experience with some of the activities involved in the studio production. However, the activity assumes no previous knowledge or experience and all students are required to complete the production planning and career components.

### **Planning Notes**

- Teachers should explore the possibilities of developing this activity with other areas of study across the secondary school curriculum. The final studio production lends itself well to those areas of study that engage in formal debates or panel discussions (e.g., English, History, Science, etc.).
- The involvement of a Career Counsellor through the Student Services Department is helpful in arranging for specific resources with respect to career development. As well, if the school has the services of a teacher-librarian, the librarian could also offer guidance to students with general or specific information requirements.
- A complete inventory of available studio production equipment (lighting, audio, visual) is necessary before students begin to plan their productions.
- Arrange for a guest speaker from a local media production facility to visit the class. The presence of a trained media specialist serves as an invaluable source of information and motivation for students.
- Teachers create a list of studio occupations for students to research and facilitate the research by preparing lists of links and search paths. Teachers also provide an overview of the technologies and processes prevalent within a graphic studio environment. As a result of their research, students demonstrate an understanding of how the current global economy is reflected in, and determining of, aspects of studio production.

### **Teaching/Learning Strategies**

- This unit is an exercise in the integration of lighting, sound, and video production to produce a final video of a debate or discussion by a small group. The culminating activity offers students the opportunity to work individually and cooperatively, employing the principles and skills of lighting, audio processing, and videotaping within guidelines that promote effective project planning and production. Students use group and individual exercises to understand the equipment, space, and roles required for their final production.
- Students explore the many jobs associated with media production using textbooks, Internet searches, and other available data.
- Supply students with an effective production model geared to your available space and equipment.
- This activity provides students with opportunities to demonstrate initiative and critical analysis. To help students achieve the best results, teachers need to make students aware of the objectives of their research and demonstrate how to draw conclusions from accumulated data.

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## Planning Outline

As a group

- Students discuss equipment/space requirements of a studio production. In smaller groups, students make a checklist of requirements and use it to assess the school's resources. The whole class discusses alternatives to resources that are lacking.

Individually

- Students research technical roles in the studio and make note of specific jobs and responsibilities. Students use electronic and paper resources to investigate career paths for selected roles. They make note of the education, training, experience, and career prospects of selected roles, then begin a report that is to be handed in at the end of the unit.

## Assessment & Evaluation of Student Achievement

- Observation of student performance during the pre-production planning process is recorded on a checklist.
- The final production plan for the video activity is evaluated utilizing teacher/student conferencing and an observational checklist.
- The student report on careers is assessed using a rubric developed to reflect the resources and opportunities available in each particular school.

## Accommodations

The teacher reviews a student's IEP and adapts the activity and teaching strategies to meet the student's needs. Students with special needs are accommodated by identifying those areas of the production process that best serve the student's learning style. The space and equipment available must be carefully considered when providing accommodations and/or modifications.

## Resources

(**Note:** Ensure that all resources being used are bias neutral with respect to appearance, belief systems, disabilities, family structures, gender, race, culture, and socio-economic status.)

### General

- Teacher-developed resources including handouts, worksheets, and activity sheets
- Exemplars of career searches from other areas of the school
- University/college course calendars
- Job listings from newspapers or the Internet
- Career material from Student Services Department and Library/Resource Centre

### Books

Hitchcock, Peter. *Videography: The Guide to Making Videos*. Toronto: Peter Hitchcock Productions Inc. and TV Ontario, 1992. ISBN 0-9696261-0-X

Hone, Rick and Liz Flynn. *Video in Focus: A Guide to Viewing and Producing Video*. Toronto: Globe/Modern Curriculum Press, 1992. ISBN 0-888996-344-4

Hone, Rick and Liz Flynn. *Video in Focus: A Guide to Viewing and Producing Video, Teacher's Guide*. Toronto: Globe/Modern Curriculum Press, 1992. ISBN 0-888996-281-2

Utz, Peter. *Today's Video, Equipment, Setup and Production*. USA: Prentice-Hall, 1992. ISBN 0-13925033-6

Zettl, Herbert. *Video Basics*. Toronto: Nelson Canada, 1995.

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## **Video**

*Basic Shooting*. USA: Videomaker, Inc., 1994. 42 min.

*Video Editing*. USA: Videomaker, Inc., 1994. 47 min.

*Videography: The Guide to Making Videos*. Toronto: Peter Hitchcock Productions Inc. and TV Ontario, 1992. Eight 30-minute videos.

## **Magazines**

*Digital Video*. USA: Miller Freeman Publications.

*New Media.pro*. Toronto: Southam Inc.

*Video Systems*. USA: Interac/Primedia Publication.

*VideoMaker*. USA: VideoMaker Inc.

## **Websites**

Digital Imaging Magazine – <http://www.digitalimagingmag.com>

A good source of digital video/editing on-line articles, links to user groups, and equipment information.

Job Futures 2000 – <http://www.hrhc-drhc.gc.ca>

A good reference tool with valuable information about careers, education, and training.

New Media.pro Magazine – <http://www.newmediapromagazine.com>

A good Canadian source of digital video/editing on-line articles, links to user groups, and equipment information.

Videomaker Magazine – <http://www.videomaker.com>

A good source of video/editing on-line articles, links to user groups, and equipment information.

Video Systems Magazine – <http://www.videosystems.com>

A good source of video/editing on-line articles, links to user groups, and equipment information.

Workinfont – <http://www.worknet.ca>

A good reference tool with valuable information about careers, education, and training.

## **Activity 2: Lighting in the Studio**

**Time:** 420 minutes

### **Description**

This activity introduces students to the principles and techniques of studio lighting by exploring the theory, equipment, and techniques of lighting for television broadcasting or video production. By concentrating on the practical aspects of three-point lighting, students gain an understanding of the nature and uses of artificial light sources. Throughout this activity, students demonstrate individual and cooperative learning and planning skills, knowledge of lighting theory, safety, equipment, and techniques applicable to a studio production. A clear understanding of and adherence to the safe handling of electrical equipment and power sources is stressed.

### **Strand(s) & Learning Expectations**

**Strand(s):** Theory and Foundation, Skills and Processes, Impact and Consequences

#### **Overall Expectations**

TFV.02 - identify and describe the components and processes that make up each of the following: electronic, live, recorded, and graphic communications;

TFV.04 - describe industry standards, regulations, and formats that apply to communications technology;

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SPV.05 - use mathematical and language skills effectively and apply scientific principles in the design of electronic, live, recorded, and graphic communications systems;

ICV.02 - demonstrate an understanding of the health and safety rules and regulations applicable to a communications technology program.

### **Specific Expectations**

TF2.07 - evaluate component properties and select the most appropriate components for a particular process;

SP1.01 - demonstrate the interpersonal skills required for effective teamwork;

SP1.05 - effectively apply a variety of planning tools (e.g., storyboards, flow charts, schematic diagrams);

SP2.03 - operate control devices and components to manipulate or create communications technology projects;

SP2.04 - develop and interpret technical and artistic drawings, reports, instructions, manuals, on-line documentation, and specifications to help solve a communications problem;

SP3.02 - use specific gauges and meters to monitor, test, and modify processes or systems to ensure adherence to industry-recognized standards;

SP4.01 - apply mathematics accurately in spreadsheets and when calculating electrical current, resistance, and energy consumption;

SP4.03 - use terminology that is recognized by the communications industry;

SP4.04 - apply scientific principles related to light, magnetism, and basic digital fundamentals;

IC2.01 - apply safe work practices when performing communications processes;

IC2.02 - identify potential hazards in their workplace by conducting safety audits and inspections;

IC2.03 - describe specific components of the Occupational Health and Safety Act that relate to their workplace and the actions required on their part to adhere to them.

### **Prior Knowledge & Skills**

Although some students may be familiar with lighting equipment, and some students who have taken Integrated Technologies and/or Grade 10 Communications Technology may have used lighting theory, equipment, or techniques, the activity assumes no previous knowledge or experience.

### **Planning Notes**

- It is important that teachers check the safe and efficient operation of all equipment, power sources, and cabling before this activity begins. If any concerns are identified, the appropriate person must be notified.
- Survey all electrical circuits to establish load levels appropriate to their individual needs within the studio environment. In addition, studio space must be clear of all obstacles that may create safety concerns.
- An effective emergency plan needs to be in place to deal with potential accidents that may occur when working with high voltages and hot lights.
- Provide protective gloves for the handling of hot lighting instruments.
- Organize sufficient lighting instruments and accessories (e.g., small inexpensive flashlights, cardboard boxes, videotapes, etc.) for groups of three or four students.
- Print or on-line resources are recommended for exploration of concepts and skills pertaining to the particular needs of the studio lighting equipment.
- Copies of all equipment manuals should be available in the classroom. Prepare copies of handouts for theory, safety, and lighting equipment concepts and handling procedures.
- Opportunities for cross-curricular involvement with other courses, which use guest speakers, panel discussions, or other forms of debate, are easily accommodated within this particular activity and the culminating activity of this unit.

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## Teaching/Learning Strategies

The lighting activities are an exercise in the manipulation of light and shadow. It offers students the opportunity to work individually and cooperatively with the principles and skills of lighting techniques within guidelines that promote project planning, teamwork, and skilled use of resources.

The activity consists of lighting an object using three-point or triangular lighting.

### Activity Instructions - Introduction

The teacher introduces the project by explaining its guidelines and objectives. Students meet objectives that include:

- demonstration of knowledge and application of lighting theory and safety;
- use of lighting equipment to create an appropriate visual that demonstrates an understanding of light intensity, shadows, fall off, and hot spots;
- use of lighting equipment to create an appropriate visual that demonstrates an understanding of the three-point lighting concepts of key light, fill light, and back light;
- demonstration of safe and appropriate use of resources.

### Discovering Principles and Techniques (whole class, independent, and group work)

Students demonstrate knowledge of the objectives of studio lighting, light direction, intensity, colour, and shadow by referring to textual sources and responding to questions. Students acquire an understanding and knowledge of electrical output and consumption through teacher instruction and practice exercises. Concepts and techniques for setting up and operating lighting instruments are reviewed and illustrated in whole class discussions and demonstrations. In groups of two or three, students communicate and demonstrate their understanding and application of colour theory and light source focussing techniques by illuminating an object using a three-point lighting plot. This can be achieved using a formal lighting grid or with a simple set-up using small flashlights as the light sources. Students create diagrams to identify and label concepts and effects achieved when lighting the object with a three-point lighting plot. Significant time is devoted to safe handling and operation of all equipment, establishing start-up and shutdown routines, and completing a training checklist.

### Assessment & Evaluation of Student Achievement

- A pencil-and-paper quiz is employed for theoretical and technical material covered in the activity (Appendix 2.1).
- Observations of the student's performance during the production process (e.g., contribution to group work, safe handling of equipment, application of practical skills) are recorded on a checklist.
- The final summative evaluation of the lighting activity is done using a checklist to assess the student's final diagram. The teacher should create checklists that reflect the local working environment and available equipment.

### Accommodations

The teacher reviews students' IEPs and adapts the activity and teaching strategies to meet students' needs. All students are accommodated by identifying those areas of the production process that best serve the student's learning style. The physical space and equipment available must be carefully considered when providing accommodations and/or modifications.

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## Resources

(Note: Ensure that all resources being used are bias neutral with respect to appearance, belief systems, disabilities, family structures, gender, race, culture, and socio-economic status.)

### General

- Audio/video production equipment such as video cameras, lighting equipment, and necessary cabling

### Books

Hitchcock, Peter. *Videography: The Guide to Making Videos*. Toronto: Peter Hitchcock Productions Inc. and TV Ontario, 1992. ISBN 0-9696261-0-X

Hone, Rick and Liz Flynn. *Video in Focus: A Guide to Viewing and Producing Video*. Toronto: Globe/Modern Curriculum Press, 1992. ISBN 0-888996-344-4

Hone, Rick and Liz Flynn. *Video in Focus: A Guide to Viewing and Producing Video, Teacher's Guide*. Toronto: Globe/Modern Curriculum Press, 1992. ISBN 0-888996-281-2

Utz, Peter. *Today's Video, Equipment, Setup and Production*. USA: Prentice-Hall, 1992. ISBN 0-13925033-6

Wurtzel, Alan. *Television Production*. Toronto: McGraw-Hill, 1989.

Zettl, Herbert. *Video Basics*. Toronto: Nelson Canada, 1995.

### Video

*Basic Shooting*. USA: Videomaker, Inc., 1994. 42 min.

*Video Editing*. USA: Videomaker, Inc., 1994. 47 min.

*Videography: The Guide to Making Videos*. Toronto: Peter Hitchcock Productions Inc. and TV Ontario, 1992. Eight 30-minute videos.

### Magazines

*Digital Video*. USA: Miller Freeman Publications.

*New Media.pro*. Toronto: Southam Inc.

*Video Systems*. USA: Interac/Primedia Publication.

*VideoMaker*. USA: VideoMaker Inc.

### Websites

AV Avenue – <http://www.avavenue.com>

A good source of information on a wide range of technical topics related to audio/video production, on-line articles, and equipment information.

Digital Imaging Magazine – <http://www.digitalimagingmag.com>

A good source of digital video/editing on-line articles, links to user groups, and equipment information.

New Media.pro Magazine – <http://www.newmediapromagazine.com>

A good Canadian source of digital video/editing on-line articles, links to user groups, and equipment information.

Videomaker Magazine – <http://www.videomaker.com>

A good source of video/editing on-line articles, links to user groups, and equipment information.

Video Systems Magazine – <http://www.videosystems.com>

A good source of video/editing on-line articles, links to user groups, and equipment information.

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## Activity 3: Audio in the Studio

**Time:** 330 minutes

### Description

This activity introduces students to the theory, equipment, and techniques of audio processing for television broadcasting or video production within a studio. By concentrating on the practical aspects of sound pickup, mixing, and recording, students gain an understanding of the nature and uses of sound sources. Throughout this activity, students demonstrate individual and cooperative learning and planning skills, knowledge of audio theory, safety, equipment, and techniques applicable to a studio production. A clear understanding of and adherence to the safe handling of audio and related equipment is stressed.

### Strand(s) & Learning Expectations

**Strand(s):** Theory and Foundation, Skills and Processes, Impact and Consequences

#### Overall Expectations

TFV.02 - identify and describe the components and processes that make up each of the following: electronic, live, recorded, and graphic communications;

TFV.03 - explain how basic communications systems function and describe the knowledge required to manage a range of communications systems;

TFV.04 - describe industry standards, regulations, and formats that apply to communications technology;

SPV.03 - set up, operate, and maintain a communications system and analyse its efficiency.

#### Specific Expectations

TF2.01 - explain the basic electronic communications system (how energy is converted into an electrical signal, amplified, transmitted by physical or atmospheric channels, decoded, and converted to sound);

TF2.03 - explain how electricity and magnetism form the basis for audio and video communications;

TF2.04 - demonstrate a working knowledge of amplification and signal processing;

TF2.05 - identify the advantages of various formats for specific applications;

TF2.07 - evaluate component properties and select the most appropriate components for a particular process;

TF3.02 - research appropriate production techniques and recommend processes that adhere to industry standards;

TF3.03 - select the appropriate formats for electronic, live, recorded, and graphic productions;

SP1.03 - demonstrate the time management and problem-solving skills required to complete projects;

SP2.01 - set up and correctly operate the equipment and accessories required to create and modify environments for communications productions (e.g., video and audio editing suites, desktop publishing configurations, live and recorded productions, electronic communication systems, websites);

SP2.03 - operate control devices and components to manipulate or create communications technology projects;

SP4.03 - use terminology that is recognized by the communications industry.

### Prior Knowledge & Skills

Although some students may be familiar with audio equipment, and some students who have taken Integrated Technologies and/or Grade 10 Communications Technology may have used audio theory, equipment, or techniques, the activity assumes no previous knowledge or experience.

### Planning Notes

- It is important that teachers check the safe and efficient operation of all equipment, power sources, and cabling before this activity begins.
- Survey all electrical circuits and establish safe load levels within the studio environment. In addition, studio space must be clear of all obstacles that may create safety concerns.

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- Equipment required:
    - various types of microphones (e.g., lavalier, hand-held microphone, boom);
    - audio mixing board;
    - video camera.

### **Teaching/Learning Strategies**

This audio activity involves the production and manipulation of sound. It offers students the opportunity to work individually and cooperatively with the principles and skills of audio capture and processing within guidelines that promote project planning, teamwork, and skilled use of resources. Students are first introduced to the theory of sound through demonstrations and notes. They then move on to lessons and demonstrations on the safe and effective way to operate all of the available equipment. Finally, students complete a short practical activity involving the pick up, processing, and recording of sound sources.

### **Discovering Principles and Techniques (whole class, independent, and group work)**

Through Socratic teaching, demonstrations, and the completion of question sheets, students gain and demonstrate theoretical knowledge and skills in the following areas:

- pickup and generation of sound;
- aesthetics of sound (perspective, energy, presence);
- storage of sound (analog and digital media);
- control of sound properties through a mixer (volume and frequency settings).

### **Activity (group work)**

Students use available microphones and audio mixer(s) in combination to create a videotaped demonstration of linear sound perspective (sound levels recorded on the videotape must reflect the relative distance the sound source is from the camera). Students set up a camera and arrange sound sources (people or devices such as tape players or CD players) in a straight line running along the z-axis away from the camera. Students then set up the available microphones at varying distances along the z-axis. The sound from each microphone is then fed into the sound mixer, which is connected to a set of speakers for sound monitoring. Using the mixer, the levels of the source sounds are matched to the visual distance the sound sources are from the camera position. Students should recreate the natural perspective of the source sounds as the human ear would hear them, if located at the camera position.

### **Assessment & Evaluation of Student Achievement**

- A pencil-and-paper quiz is employed for theoretical and technical material covered in the activity.
- Observations of the student's performance during the production process are recorded on a checklist (Appendix 2.2).
- The final summative evaluation of the audio activity is done using a checklist to assess the student's final recording on videotape.
- The teacher should create checklists that reflect the local working environment and available equipment.

### **Accommodations**

The teacher reviews the student's IEP and adapts the activity to meet the student's needs. All students are accommodated by identifying those areas of the production process that best serve the student's learning style. The space and equipment available must be carefully considered when providing accommodations and/or modifications.

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## Resources

(Note: Ensure that all resources being used are bias neutral with respect to appearance, belief systems, disabilities, family structures, gender, race, culture, and socio-economic status.)

### General

- Teacher-developed resources including handouts, worksheets, and activity sheets
- Exemplars of student work
- Manufacturer's equipment manuals

### Books

Bermingham, Alan, et al. *The Video Studio*. London: Focal Press, 1994.

Hitchcock, Peter. *Videography: The Guide to Making Videos*. Toronto: Peter Hitchcock Productions Inc. and TV Ontario, 1992. ISBN 0-9696261-0-X

Hone, Rick and Liz Flynn. *Video in Focus: A Guide to Viewing and Producing Video*. Toronto: Globe/Modern Curriculum Press, 1992. ISBN 0-888996-344-4

Hone, Rick and Liz Flynn. *Video in Focus: A Guide to Viewing and Producing Video, Teacher's Guide*. Toronto: Globe/Modern Curriculum Press, 1992. ISBN 0-888996-281-2

Utz, Peter. *Today's Video, Equipment, Setup and Production*. USA: Prentice-Hall, 1992. ISBN 0-13925033-6

Utz, Peter. *Recording Great Audio*. USA: Quantum Publishing, Inc., 1989. ISBN 0-930633-15-6

Wurtzel, Alan. *Television Production*. Toronto: McGraw-Hill, 1989.

Zettl, Herbert. *Video Basics*. Toronto: Nelson Canada, 1995.

### Video

*Basic Shooting*. USA: Videomaker, Inc., 1994. 42 min.

*Video Editing*. USA: Videomaker, Inc., 1994. 47 min.

*Videography: The Guide to Making Videos*. Toronto: Peter Hitchcock Productions Inc. and TV Ontario, 1992. Eight 30-minute videos.

### Magazines

*Digital Video*. USA: Miller Freeman Publications.

*New Media.pro*. Toronto: Southam Inc.

*Video Systems*. USA: Interac/Primedia Publication.

*VideoMaker*. USA: VideoMaker Inc.

### Websites

AV Avenue – <http://www.avavenue.com>

A good source of information on a wide range of technical topics related to audio/video production, on-line articles, and equipment information.

Digital Imaging Magazine – <http://www.digitalimagingmag.com>

A good source of digital video/editing on-line articles, links to user groups, and equipment information.

New Media.pro Magazine – <http://www.newmediapromagazine.com>

A good Canadian source of digital video/editing on-line articles, links to user groups, and equipment information.

Videomaker Magazine – <http://www.videomaker.com>

A good source of video/editing on-line articles, links to user groups, and equipment information.

Video Systems Magazine – <http://www.videosystems.com>

A good source of video/editing on-line articles, links to user groups, and equipment information.

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## Activity 4: Video in the Studio

**Time:** 630 minutes

### Description

This activity introduces students to the theory, equipment, and techniques of video recording for television broadcasting or video production within a studio. By concentrating on the practical aspects of three-point lighting, sound pickup, mixing, and videotaping, students demonstrate an understanding of the nature and manipulation of light, sound, and images. Throughout this activity, students demonstrate individual and cooperative learning and planning skills, knowledge of video theory, safety, equipment, and techniques applicable to a studio production. A clear understanding of and adherence to the safe handling of lighting, sound, and video equipment is stressed.

### Strand(s) & Learning Expectations

**Strand(s):** Theory and Foundation, Skills and Processes, Impact and Consequences

#### Overall Expectations

TFV.02 - identify and describe the components and processes that make up each of the following: electronic, live, recorded, and graphic communications;

TFV.03 - explain how basic communications systems function and describe the knowledge required to manage a range of communications systems;

SPV.01 - effectively plan, organize, direct, and control a variety of communications activities;

SPV.02 - use current technology and production skills to develop a process or a product in response to a communications challenge or problem;

SPV.03 - set up, operate, and maintain a communications system and analyse its efficiency;

SPV.04 - use effective techniques to carry out and document the steps in pre-production, production, and post-production;

ICV.02 - demonstrate an understanding of the health and safety rules and regulations applicable to a communications technology program.

#### Specific Expectations

TF1.01 - explain how a human need or want can be met through a new or improved product;

TF2.01 - explain the basic electronic communications system (how energy is converted into an electrical signal, amplified, transmitted by physical or atmospheric channels, decoded, and converted to sound);

TF2.03 - explain how electricity and magnetism form the basis for audio and video communications;

TF2.04 - demonstrate a working knowledge of amplification and signal processing;

TF2.07 - evaluate component properties and select the most appropriate components for a particular process;

SP1.01 - demonstrate the interpersonal skills required for effective teamwork;

SP1.02 - function effectively as individuals and as members of a cooperative team to produce a product or service;

SP1.03 - demonstrate the time management and problem-solving skills required to complete projects;

SP1.04 - accurately document planning and production processes;

SP1.05 - effectively apply a variety of planning tools (e.g., storyboards, flow charts, schematic diagrams);

SP1.06 - select and use appropriate software to manage the production process;

SP1.07 - use time management schemes to ensure that their productions meet client deadlines;

SP2.01 - set up and correctly operate the equipment and accessories required to create and modify environments for communications productions (e.g., video and audio editing suites, desktop publishing configurations, live and recorded productions, electronic communication systems, websites);

SP2.02 - select and use tools and equipment to solve a communications problem;

SP2.03 - operate control devices and components to manipulate or create communications technology projects;

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SP2.05 - set up and operate communications equipment (e.g., transmitters and receivers, frequency and phase modulation equipment, antennas, two-way communications equipment);  
SP2.06 - troubleshoot a communications system to remove any obstacles to its effective operation;  
SP2.07 - design and set up a communications system (e.g., a computer network, audio and video editing systems, lighting grids) to perform production and post-production processes;  
SP3.01 - use a variety of methods to document the planning and production processes;  
SP3.04 - use colour theory and colour standards to create presentations that adhere to industry standards;  
SP4.02 - use appropriate language in flow charts, storyboards, operation charts, scripts, and presentations;  
IC2.01 - apply safe work practices when performing communications processes;  
IC2.02 - identify potential hazards in their workplace by conducting safety audits and inspections.

### **Prior Knowledge & Skills**

Although some students may be familiar with video equipment, and some who have taken Integrated Technologies and/or Grade 10 Communications Technology may have used video theory, equipment, or techniques, the activity assumes no previous knowledge or experience.

### **Planning Notes**

- It is important that teachers check the safe and efficient operation of all equipment, power sources, and cabling before this activity begins.
- Survey all electrical circuits and establish safe load levels within the studio environment. In addition, studio space must be clear of all obstacles that may create safety concerns.
- An effective emergency plan needs to be in place to deal with potential accidents that may occur when working with high voltages and hot lights.
- Provide protective gloves for the handling of hot lighting instruments.
- Equipment and resources required:
  - lighting instruments;
  - various types of microphones (e.g., lavalier, hand-held microphone, boom);
  - audio mixing board;
  - cables, adapters, power sources, batteries;
  - video camera(s);
  - videotapes for each group;
  - prepared quizzes;
  - final evaluation rubric (Appendix 2.4).

### **Teaching/Learning Strategies**

In this activity, knowledge of lighting, sound, and video production techniques are integrated in the production of a video program composed of individual segments featuring a panel or group discussion. This culminating activity offers students the opportunity to work individually and cooperatively, employing the principles and skills of lighting, audio processing, and videotaping within guidelines that promote project planning, teamwork, and skilled use of resources. Students are first introduced to the theory of video recording through teacher-led demonstrations and background notes. They then move on to lessons and demonstrations on the safe and effective operation of available studio equipment.

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### **Discovering Principles and Techniques** (whole class, independent, and group work)

It is important that students gain a practical understanding of the following concept skills before moving on to the final recording of the panel/group discussion:

#### *Camera Theory*

- Controls and Functions (handouts and notes for available equipment)
- Movements (hand-held and tripod movements such as dolly, arc, pan, tilt, truck)

#### *Composition*

- Field of View
- Depth of Field
- Graphic, Index, and Motion Vectors (visual vectors are directional forces that direct the viewer's gaze)

#### *Control*

- Switching from several camera sources
- Program and mixing buses
- Monitoring visuals and sound levels
- Communication in a production team

### **Activity** (group work)

#### *As a group:*

- Students select a program concept from a list of possible subjects and then generate ideas for segments. Production teams are chosen; the members choose a segment to produce and assign studio roles. (Students need to refer to the research and notes taken in Activity 1.)

#### *In production teams:*

- Students proceed with the development of their chosen segment. This includes a production schedule/checklist, a precise breakdown of necessary equipment, a lighting plot, an audio set-up, camera positions and movements, and a Director's script for all on- and off-camera personnel involved in the production. While planning is finalized, each production group takes time to block and rehearse. Groups conduct a complete technical rehearsal before videotaping their segment. Groups not involved in technical production act as extras or audience members.

### **Assessment & Evaluation of Student Achievement**

- Written and oral responses along with pencil and paper quizzes are used to evaluate knowledge of the equipment, theoretical principles, and technical vocabulary of the activity. These could be administered at various stages of the production process (Appendix 2.3).
- Checklists record the demonstration and application of thinking and communication skills in program and segment planning, rehearsal, and technical set-up.
- Application of knowledge and skills during program production and shutdown is evaluated by means of a rubric.

### **Accommodations**

The teacher reviews students' IEPs and adapts the activity and teaching strategies to meet students' needs. All students are accommodated by identifying those areas of the production process that best serve the student's learning style. The physical space and equipment available must be carefully considered when providing accommodations.

### **Resources**

(**Note:** Ensure that all resources being used are bias neutral with respect to appearance, belief systems, disabilities, family structures, gender, race, culture, and socio-economic status.)

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## General

- Teacher-developed resources including handouts, worksheets, and activity sheets
- Exemplars of student work
- Manufacturer's equipment manuals

## Books

A wide range of media production topics are covered in informative and technically reliable books published by Focal Press of London.

Birmingham, Alan, et al. *The Video Studio*. London: Focal Press, 1994.

Hitchcock, Peter. *Videography: The Guide to Making Videos*. Toronto: Peter Hitchcock Productions Inc. and TV Ontario, 1992. ISBN 0-9696261-0-X

Hone, Rick and Liz Flynn. *Video in Focus: A Guide to Viewing and Producing Video*. Toronto: Globe/Modern Curriculum Press, 1992. ISBN 0-888996-344-4

Hone, Rick and Liz Flynn. *Video in Focus: A Guide to Viewing and Producing Video, Teacher's Guide*. Toronto: Globe/Modern Curriculum Press, 1992. ISBN 0-888996-281-2

Utz, Peter. *Today's Video, Equipment, Setup and Production*. USA: Prentice-Hall, 1992. ISBN 0-13925033-6

Stanaway, Jim. *A Beginner's Guide to Video Communications*. Chicago: NTC Publishing, 1997. ISBN 0-8442-5998-5

Utz, Peter. *Recording Great Audio*. USA: Quantum Publishing, Inc. 1989. ISBN 0-930633-15-6

Ward, Peter. *Basic Betacam Camerawork*. London: Focal Press, 1994.

Wurtzel, Alan. *Television Production*. Toronto: McGraw-Hill, 1989.

Zettl, Herbert. *Video Basics*. Toronto: Nelson Canada, 1995.

## Video

*Basic Shooting*. USA: Videomaker, Inc., 1994. 42 min.

*Video Editing*. USA: Videomaker, Inc., 1994. 47 min.

*Videography: The Guide to Making Videos*. Toronto: Peter Hitchcock Productions Inc. and TV Ontario, 1992. Eight 30-minute videos.

## Magazines

*Digital Video*. USA: Miller Freeman Publications.

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*Video Systems*. USA: Interac/Primedia Publication.

*VideoMaker*. USA: VideoMaker Inc.

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A good source of video/editing on-line articles, links to user groups, and equipment information.

Video Systems Magazine – <http://www.videosystems.com>

A good source of video/editing on-line articles, links to user groups, and equipment information.

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## Unit 3: Digital Video Production

**Time:** 27.5 hours

### Unit Description

This unit introduces students to the processes involved with digital image production. Students examine fundamental digital concepts, basic equipment functions, and their interface with computer technology. Students investigate the process of digitization and the transfer of data through the use of still and moving images in audio/video, recording, and photographic media. Emphasis is placed on the set-up, testing, and maintenance of the systems, (i.e., hardware, software, peripheral relationships, and connectivity), necessary to create digital productions. Critical evaluation and problem solving help students make decisions in light of gospel values with an informed moral conscience.

### Unit Synopsis Chart

Activity	Time	Expectations	Assessment	Focus
1: Still Image Storyboarding	5 hours	TFV.01, TFV.03, SPV.01, SPV.02, ICV.03 TF2.02, TF2.05, TF2.07, TF3.03, SP1.01, SP1.02, SP1.03, SP1.04, SP1.05, SP1.06, SP1.07, SP2.01, SP2.02, SP3.01, SP4.02, IC2.01 CGE: 2b, c, e; 3b, c, e; 4a, e, f; 5a, e, g; 7b, j	Knowledge and Understanding Thinking and Inquiry Communication Application	Digitization techniques and manipulation of still images
2: The Power of Audio	5 hours	TFV.01, TFV.03, TFV.04, SPV.02, ICV.03, ICV.04 TF2.02, TF2.03, TF2.11, TF3.01, IC3.01 CGE: 2a, b, c; 3b, c; 4b, e, f; 5a, e, f; 7b, j	Knowledge and Understanding - Thinking and Inquiry Communication Application	Digital audio techniques
3: Community Service Announcement	12.5 hours	TFV.01, TFV.02, TFV.03, TFV.04, SPV.01, SPV.02, SPV.04, ICV.03 TF2.02, TF2.03, TF2.04, TF3.02, SP1.01, SP1.02, SP1.04, SP1.05, SP1.07, SP2.01, SP2.02, SP2.07, SP3.01, SP4.01, SP4.02, SP4.03, IC1.02, IC3.01, IC3.04 CGE: 1d; 2c, e; 3b, c, d, e; 4b, c, d, f, g; 5a, c, f, g; 7b, e, j	Knowledge and Understanding Thinking and Inquiry Communication Application	Integration and editing of digital images
4: “Re-purposing” Digital Video - Digital Editing Output Options	5 hours	TFV.02, TFV.04, SPV.02, SPV.03, SPV.05, ICV.03 TF1.01, TF2.02, TF2.04, TF2.05, TF2.06, TF3.02, TF3.03, SP1.06, SP1.07, SP2.02, SP4.03, SP4.04, IC1.02, IC3.05 CGE: 2c, f; 3c, e; 4b, e, f; 5a, e, f; 7b, j	Knowledge and Understanding Thinking and Inquiry Communication Application	The process of digital output and output options

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## Activity 1: Still Image Storyboarding

**Time:** 300 minutes

### Description

Students explore a fresh approach to storyboarding while being introduced to digital video-editing software. Students engage in the pre-production of their video by capturing still images on the set location with digital cameras, digital video cameras, or traditional photographic methods. Images are imported to the digital video-editing application, assembled, and annotated akin to traditional storyboards. Exact imaging and playback methods provide a more precise document for critical analysis and consequent revision.

### Strand(s) & Learning Expectations

**Strand(s):** Theory and Foundation, Skills and Processes, Impact and Consequences

#### Overall Expectations

TFV.01 - apply the design process to develop solutions, products, processes, or services in response to challenges or problems in electronic, live, recorded, or graphic communications;

TFV.03 - explain how basic communications systems function and describe the knowledge required to manage a range of communications systems;

SPV.01 - effectively plan, organize, direct, and control a variety of communications activities;

SPV.02 - use current technology and production skills to develop a process or a product in response to a communications challenge or problem;

ICV.03 - identify career opportunities in the communications technology sector and the skills, education, and training required for each.

#### Specific Expectations

TF2.02 - describe the processes of analog-digital and digital-analog signal conversion;

TF2.05 - identify the advantages of various formats for specific applications;

TF2.07 - evaluate component properties and select the most appropriate components for a particular process;

TF3.03 - select the appropriate formats for electronic, live, recorded, and graphic productions;

SP1.01 - demonstrate the interpersonal skills required for effective teamwork;

SP1.02 - function effectively as individuals and as members of a cooperative team to produce a product or service;

SP1.03 - demonstrate the time management and problem-solving skills required to complete projects;

SP1.04 - accurately document planning and production processes;

SP1.05 - effectively apply a variety of planning tools (e.g., storyboards, flow charts, schematic diagrams);

SP1.06 - select and use appropriate software to manage the production process;

SP1.07 - use time management schemes to ensure that their productions meet client deadlines;

SP2.01 - set up and correctly operate the equipment and accessories required to create and modify environments for communications productions (e.g., video and audio editing suites, desktop publishing configurations, live and recorded productions, electronic communication systems, websites);

SP2.02 - select and use tools and equipment to solve a communications problem;

SP3.01 - use a variety of methods to document the planning and production processes;

SP4.02 - use appropriate language in flow charts, storyboards, operation charts, scripts, and presentations;

IC2.01 - apply safe work practices when performing communications processes.

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## **Ontario Catholic School Graduate Expectations**

CGE2b - reads, understands, and uses written materials effectively;

CGE2c - presents information and ideas clearly and honestly and with sensitivity to others;

CGE2e - uses and integrates the Catholic faith tradition, in the critical analysis of the arts, media, technology, and information systems to enhance the quality of life;

CGE3b - creates, adapts, and evaluates new ideas in light of the common good;

CGE3c - thinks reflectively and creatively to evaluate situations and solve problems;

CGE3e - adopts a holistic approach to life by integrating learning from various subject areas and experience;

CGE4a - demonstrates a confident and positive sense of self and respect for the dignity and welfare of others;

CGE4e - sets appropriate goals and priorities in school, work, and personal life;

CGE4f - applies effective communication, decision-making, problem-solving, time, and resource management skills;

CGE5a - works effectively as an interdependent team member;

CGE5e - respects the rights, responsibilities, and contributions of self and others;

CGE5g - achieves excellence, originality, and integrity in one's own work and supports these qualities in the work of others;

CGE7b - accepts accountability for one's own actions;

CGE7j - contributes to the common good.

## **Prior Knowledge & Skills**

Students have:

- an understanding of the basic principles of design (from Unit 1).
- an awareness of why a storyboard is used for video production (from Unit 2).

## **Planning Notes**

- Investigate the software, accessible and available at the school site or through the school district's system, that is suitable for the activity.
- Collect exemplar works of previous students to illustrate some of the techniques used in storyboarding.

## **Teaching/Learning Strategies**

- The teacher encourages attitudes and values, founded on Catholic social teachings, which promote social responsibility, human solidarity, and the common good.
- Student-to-student discussion and teacher-to-student conferencing should occur throughout the project.
- The teacher should explain the correct use of the digital and video camera.
- The teacher demonstrates capturing still images from videotape.
- The teacher forms groups of two to four students.
- The teacher explains the purpose and layout of a storyboard.
- Depending on the type of video being created, students must understand that they will communicate a message to their audience.
- The teacher explains the various types of shots that might be used in a movie production (e.g., close up, extreme close up, medium shot, long shot, and extreme long shot, etc.).
- The teacher also explains how transitions, special effects, and audio play an important role in developing an effective storyboard/video and discusses various types of transitions that might be used.

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- The teacher explains how the information should flow from one scene to the next and provide a story-line that can be followed. The story should be clear.
  - The teacher should show how the storyboards sequence shots must be ordered together correctly to communicate the proposed story-line.
  - Students create an electronic storyboard by using a digital camera or video camera. They assemble the shots electronically using a slideshow or presentation software package (their work may also be printed and pasted on a layout board).
  - The storyboard is presented to the teacher before proceeding with the video production.

### **Assessment & Evaluation of Student Achievement**

- Perform a final summative evaluation of the completed storyboard.
- Formative assessment: have roving conferences as students develop their story-lines with the storyboards.
- Meet with students individually after asking them to set their own goals.
- Provide formal feedback on the image storyboards created by the students.
- Presentations to the class are evaluated.
- Students are given the opportunity to self-evaluate their work, along with the teacher's evaluation, to determine an appropriate mark for the activity.
- Principles of design and correct storyboarding are used to assess students' work.

### **Accommodations**

- Teachers should be acquainted with Individual Education Plans (IEPs) and their unique learning characteristics in order to make the necessary accommodations. Teachers should be aware of students who require modification to the mandated expectations for this course. *Ontario Secondary Schools* (p. 24) allows teachers to modify the learning expectations for exceptional students in order to support the contents of the student's IEP. This applies also to students who have not been identified as exceptional but are receiving Special Education programs and services.
- Special needs students can be given appropriate timelines for completion of this activity.
- Students work with a partner or in small groups.
- Help students with special needs to develop their storyboards.
- Provide support as needed for those students who would benefit from direct one-to-one teacher conferencing.
- Provide students with exemplar work to help them understand what a storyboard is and how it might be created.

### **Resource**

#### **General**

- Teacher-developed resources including handouts, worksheets, and activity sheets
- Various samples of instructional videos
- Student exemplars
- Manufacturer's equipment manuals
- Software manuals and tutorial exercises
- The school Library/Resource Centre

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## Books

- Andersen, Neil and John Punjente. *Scanning Television: Videos for Media Literacy in Class*. Toronto: Harcourt Brace & Company, 1997. ISBN 0-7747-0173-0
- Brenneis, Lisa. *Final Cut Pro For Macintosh: Visual Quick-Pro Guide*. USA: Peachpit Press, 1999. ISBN 0201354802
- Grebler, Ron. *Desktop Digital Video: How to Use Your Computer and Camcorder to Edit and Create Videos and Digital Effects*. USA: Prompt Press, 1999. ISBN 0790610957
- Hitchcock, Peter. *Videography: The Guide to Making Videos*. Toronto: Peter Hitchcock Productions Inc. and TV Ontario, 1992. ISBN 0-9696-2610-X
- Hoffer, Avi. *Digital Guerrilla Video: A Grassroots Guide to the Revolution*. USA: Miller Freeman Books, 1999. ISBN 0879305754
- Hone, Rick and Liz Flynn. *Video in Focus: A Guide to Viewing and Producing Video*. Toronto: Globe/Modern Curriculum Press, 1992. ISBN 0-8899-6344-4
- Hone, Rick and Liz Flynn. *Video in Focus: A Guide to Viewing and Producing Video, Teacher's Guide*. Toronto: Globe/Modern Curriculum Press, 1992. ISBN 0-8899-6281-2
- Kyker, Keith and Christopher Curchy. *Television Production: A Classroom Approach*. USA: Libraries Unlimited, 1993. ISBN 1-5630-8101-6
- Ohanian, Thomas. *Digital Filmmaking: The Changing Art and Craft of Making Motion Pictures*. USA: Butterworth-Heinemann, 1996. ISBN 0240802195
- Ohanian, Thomas. *Digital Nonlinear Editing: Editing Film and Video on the Desktop*. USA: Butterworth-Heinemann, 1997. ISBN 024080225X
- Utz, Peter. *Today's Video, Equipment, Setup and Production*. USA: Prentice-Hall, 1992. ISBN 0-1392-5033-6
- Zettl, Herbert. *Video Basics*. Toronto: Nelson Canada, 1995. ISBN 0-5342-4786-5
- Zettl, Herbert. *Video Basics Workbook*. Toronto: Nelson Canada, 1995. ISBN 0-5342-4787-X

## Video

- Basic Shooting*. USA: Videomaker, Inc., 1994. 42 min.
- Manufacturing Consent*.
- Video Editing*. USA: Videomaker, Inc., 1994. 47 min.
- Videography: The Guide to Making Videos*. Toronto: Peter Hitchcock Productions Inc. and TV Ontario, 1992. Eight 30-minute videos.

## Magazines

- Digital Imaging*. New York: Cygnus Publishing.
- Digital Video*. USA: Miller Freeman Publications.
- New Media.pro*. Toronto: Southam Inc.
- Video Systems*. USA: Interac/Primedia Publication.
- VideoMaker*. USA: VideoMaker Inc.

## Websites

- 2-Pop — <http://www.2-pop.com>  
Previews, forums, discussion groups, techniques, tutorials, and links to the video industry.
- Apple DV — <http://www.apple.com/education/dv/>  
Apple education page, Firewire-based products and technologies, links to other related sites.
- Digital Imaging Magazine — <http://www.digitalimagingmag.com>  
Digital video/editing on-line articles, links to user groups, and equipment information.

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Computer Video Magazine Online — <http://www.computervideo.net/>  
Digital Video curriculum ideas.

Digital Video for Education — <http://www.ncsa.uiuc.edu>  
This site manages a unique collection of virtual environments.

Digital Video Magazine — <http://www.dv.com>  
Digital video/editing on-line articles, links to user groups, and equipment information.

Digital Video Professional Association — <http://www.dvpa.com>  
On-line article's, links to user groups, and equipment information.

National Association of Broadcasters — <http://www.nab.org>  
Information on Broadcasting and Digital video. Links to other related sites.

New Mediapro Magazine — <http://www.newmediapromagazine.com>  
A Canadian source of digital video/editing on-line articles, equipment and links to user groups.

Videomaker Magazine — <http://www.videomaker.com>  
Digital video/editing on-line articles, links to user groups, and equipment information.

Videonics Systems — <http://www.videonics.com>  
Articles on video/editing, links to user groups, industry, and equipment information.

Video Systems Magazine — <http://www.videosystems.com>  
Video/editing on-line articles, links to user groups, and equipment information.

Video University — <http://www.videouniversity.com>  
A resource for courses in video production, software tutorials and CD resources.

Worldwide Users Groups Forum — <http://www.wwug.com>  
A site to share information about software, computers, video, and multimedia.

## **Activity 2: The Power of Audio**

**Time:** 300 minutes

### **Description**

This activity gives students the opportunity to discover how the choice of audio for the soundtrack can effect the overall message of a video production. Students apply various audio types and styles to a generic video track to see how the soundtrack serves to underscore and/or counterpoint the meaning of the visual images in the project (video footage). Elements of rhythm, mood, and pace play a critical role in the communication of a video's message. Students also explore and critique the pros and cons of a variety of digital audio characteristics, including audio formats, conversion and compression techniques, and audio editing software. Music, voice-over, and sound effects are studied with respect to their appropriate methods of capture. Students are made aware of the copyright laws that govern replay and reproduction of music. Issues of Christian morality are discussed with respect to the media's ability to manipulate the public's emotion and perception of truth through subtle manipulations of audio.

### **Strand(s) & Learning Expectations**

**Strand(s):** Theory and Foundation, Skills and Processes, Impact and Consequences

#### **Overall Expectations**

TFV.01 - apply the design process to develop solutions, products, processes, or services in response to simple challenges or problems in electronic, live, recorded, or graphic communications;

TFV.03 - demonstrate an understanding of electronic, live, recorded, and graphic communications systems;

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TFV.04 - describe industry standards applicable to communications technology;  
SPV.02 - produce, assemble, connect, and operate current equipment and components to perform specific functions related to communications technology;  
ICV.03 - describe the career opportunities available in the communications technology sector immediately on graduation from high school;  
ICV.04 - identify the employability skills required to be successful in the workplace.

### **Specific Expectations**

TF2.02 - explain different methods of storing and retrieving information and the advantages of each;  
TF2.03 - explain how digitization is used for print, audio, video, recording, and photographic media and in the transfer of data;  
TF2.11 - explain how the concepts of encoding, storing, decoding, transmitting, and receiving apply to electronic, live, recorded, and graphic projects in communications technology;  
TF3.01 - define the terminology used in the areas of electronic, live, recorded, and graphic communications;  
IC3.01 - identify career opportunities in the communications sector.

### **Ontario Catholic School Graduate Expectations**

CGE2a - listens actively and critically to understand and learn in light of gospel values;  
CGE2b - reads, understands, and uses written materials effectively;  
CGE2c - presents information and ideas clearly and honestly and with sensitivity to others;  
CGE3b - creates, adapts, and evaluates new ideas in light of the common good;  
CGE3c - thinks reflectively and creatively to evaluate situations and solve problems;  
CGE4b - demonstrates flexibility and adaptability;  
CGE4e - sets appropriate goals and priorities in school, work, and personal life;  
CGE4f - applies effective communication, decision-making, problem-solving, time, and resource management skills;  
CGE5a - works effectively as an interdependent team member;  
CGE5e - respects the rights, responsibilities, and contributions of self and others;  
CGE5f - exercises Christian leadership in the achievement of individual and group goals;  
CGE7b - accepts accountability for one's own actions;  
CGE7j - contributes to the common good.

### **Prior Knowledge & Skills**

- A basic understanding of computer operations and the use of audio/video equipment would be beneficial, but is not necessary for completion of the activity.
- Students have cooperative teamwork skills.

### **Planning Notes**

- Teachers implement their school district's policies on appropriate use and access to Internet services.
- Students keep a daily log sheet, recording brief notes of their accomplishments each day and outlining any future needs that this activity requires.
- Collect and provide examples of soundtracks and audio files that outline the steps required for successful completion of the task.
- Previous student work can be edited and dubbed with different audio tracks for students to experiment with.
- Investigate cross-curricular connections with other subject areas, especially the Music department.
- Provide the opportunity for students to focus on specific career options and provide insights into the skills required for related professions.

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- Teaching/Learning Strategies that allow for career links should be investigated (e.g., job shadowing, career and education research, field trips, and guest speakers). Arrange for appropriate speakers, whose careers are related to the audio, video, and digital video industry, to share their education and career paths with students. Members of the community may provide students with some insights into career opportunities and issues.

### **Teaching/Learning Strategies**

- Teachers encourage attitudes and values, founded on Catholic social teachings, which promote social responsibility, human solidarity, and the common good.

### **Soundtracks**

- The teacher facilitates a discussion on the topic of soundtracks by questioning the class on:
  - The importance of music and the “picture”;
  - Whether creating animations or editing video, the audio soundtrack will help to inform your visual decisions.
- The class discusses different types of music and develops a list of what they think is best suited for different video situations.
- Different musical scores may be presented by the teacher to illustrate how music is used to create elements of rhythm and pacing.
- The teacher provides students with pre-recorded video sequences (Quicktime, AVI, or MOV formats). Each sequence should include three or four versions, each with a different audio track, as well as one without any audio track added.
- Students, working in groups of four or five, play the video sequence that has no audio and suggest what kind of sound track would best fit.
- The group then plays each of the sample sequences and decides which audio track seems best suited to the visual message of each sequence.
- The process is repeated for three or four different video sequences.
- The teacher should facilitate a discussion on the importance of audio, and its integration and effect on the “picture,” after completion of the exercise.

### **Digital Audio Characteristics**

- The teacher facilitates a discussion on digital audio characteristics, including: sampling rate, bit depth and mode, compression, audio formats, and audio streaming.
- Students brainstorm and develop a list of audio formats and terms.
- The teacher discusses the essential differences and advantages of each audio format and its suitability for use in different digital video-editing software (see Appendix 3.1 for reference).
- Students should be made aware of the copyright laws that govern replay and reproduction of music. Research in this area can provide an extension to the activity.
- Students complete a series of tutorials that assist them in learning how to do basic digital audio editing techniques, including: capturing, conversion to appropriate formats, editing using digital audio software, and importing and exporting audio files into digital video-editing software.

### **Assessment & Evaluation of Student Achievement**

- Summative assessment of tutorial work
- Summative assessment of the concepts and techniques utilized in this activity
- Paper and pencil test
- Performance assessment of assigned tutorial exercises and worksheets
- Personal communication – teacher/student conferencing

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## Accommodations

- Teachers should be acquainted with exceptional students' Individual Education Plans (IEPs) and their unique learning characteristics in order to make the necessary accommodations. Teachers should be aware of students who require modification to the mandated expectations for this course. *Ontario Secondary Schools* (p. 24) allows teachers to modify the learning expectations for exceptional students in order to support the contents of the student's IEP. This applies also to students who have not been identified as exceptional but are receiving Special Education programs and services.
- Students with special needs can be given appropriate timelines for completion of this activity.
- Peer tutoring is given to those students who need extra help.
- Student-to-student discussion and teacher-to-student conferencing should occur throughout the project.
- Peer tutors assist students with special needs when handling equipment.

## Resources

### General

- Teacher-developed resources including handouts, worksheets, and activity sheets
- Various samples of video sequences with edited audio tracks
- Student exemplars
- Manufacturer's equipment manuals
- Software manuals and tutorial exercises
- The school Library/Resource Centre

### Books

Ackenhusen, John G. *Real-Time Signal Processing: Design and Implementation of Signal Processing Systems*. USA: Prentice Hall, 1999. ISBN 0136317715

Albanese, Steve and Colin MacQueen. *Digital Audio Dictionary* (Book & CD edition). USA: Prompt Publications, 2000. ISBN 0790612011

Baert, L., Luc Theunissen, Guido Vergult, and Jan Maes. *Digital Audio and Compact Disc Technology*, 3rd ed. Great Britain: Books Britain, 1995. ISBN 0240513975

Coulter, Doug. *Digital Audio Processing*. USA: CMP Books, 2000. ISBN 0879305665

Lindley, Craig A. *Digital Audio with Java* (Book & CD edition). USA: Prentice Hall, 1999. ISBN 0130876763

Lyons, Richard G. *Understanding Digital Signal Processing*. USA: Addison-Wesley, 1996. ISBN 0201634678

Pohlmann, Ken C. *Principles of Digital Audio*, 4th ed. USA: McGraw-Hill Professional Publishing, 2000. ISBN 0071348190

Rose, Jay. *Producing Great Sound for Digital Video* (Book & CD edition). USA: CMP Books, 2000. ISBN 0879305975

Solari, Stephen J. *Digital Video and Audio Compression*. USA: McGraw Hill Text, 1999. ISBN 0070595380

Steiglitz, Ken. *A DSP Primer: With Applications to Digital Audio and Computer Music*. USA: Addison-Wesley, 1996. ISBN 0805316841

Watkinson, John. *The Art of Digital Audio*, 2nd ed. USA: Butterworth-Heinemann, 1994. ISBN 0240513207

Watkinson, John. *Mpeg 2*, 2nd ed. USA: Focal Press, 1999. ISBN 0240515102

White, Paul. *Desktop Digital Studio*. USA: Sanctuary Publishing, 2000. ISBN 1860743242

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## Magazines

*Digital Imaging*. New York: Cygnus Publishing.

*Digital Video*. USA: Miller Freeman Publications.

*Keyboarding Magazine*.

*New Media.pro*. Toronto: Southam Inc.

## Websites

Apple DV — <http://www.apple.com/education/dv/>

Apple education page, Firewire-based products and technologies, links to other related sites.

Audio Engineering Society — <http://www.aes.org>

Good source of audio information, industry standards, and links to other audio-related sites.

Audio Media On-Line — <http://www.audiomedia.com>

Articles, digital audio/video information, and links to other audio-related sites.

Berklee Press — <http://www.berklee.com>

Music sources, on-line articles and lessons. Links to other audio-related sites.

Canadian Musician — <http://www.canadianmusician.com>

Information on the Canadian music industry. Good links to other audio-related sources.

Digital DIY — <http://www.symbiosis-music.com>

Information on digital recording equipment, MIDI instruments, sound effects units, editing, and CD mastering. Links to other related sources.

Electronic Music Interactive — <http://nmc.uoregon.edu/emi>

Information on the nature of sound, synthesis, and MIDI. Links to other audio-related sites.

MIDI-site — <http://www.midisites.com>

A search engine for MIDI sources and files on the Internet. Great links to other audio-related sites.

Music and Audio Connection — <http://www.musicandaudio.com>

Information on education, artists, associations, music, and audio professionals. Good links to other audio-related sources.

Reelworld — <http://www.reelworld-online.com>

Film music and related topics of interests for anyone interested in music for pictures. Good links to other audio sites.

Shareware Music Machine — <http://www.hitsquad.com/smm>

Audio shareware, freeware, and demos of MIDI sequencers, audio editors, and samples. Links to other audio-related sites.

Sounds Online — <http://www.soundsonline.com>

Free sounds as well as sample CDs and sound libraries. Links to other audio-related sites.

## Activity 3: Community Service Announcement

**Time:** 750 minutes

### Description

Students develop digital video-editing techniques and apply their prior production knowledge while creating a video that brings awareness to a student-selected community or social justice issue. Students select an issue, complete the background research for their topic, and assemble the required media. Using digital editing software, the final product incorporates full motion video, still images, appropriate audio/music or narration, transitions, titles/graphic screens, and special effects. Through cooperative learning strategies, students utilize digital video technology to enhance the quality of life for all community members.

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## **Strand(s) & Learning Expectations**

**Strand(s):** Theory and Foundation, Skills and Processes, Impact and Consequences

### **Overall Expectations**

TFV.01 - apply the design process to develop solutions, products, processes, or services in response to challenges or problems in electronic, live, recorded, or graphic communications;

TFV.02 - identify and describe the components and processes that make up each of the following: electronic, live, recorded, and graphic communications;

TFV.03 - explain how basic communications systems function and describe the knowledge required to manage a range of communications systems;

TFV.04 - describe industry standards, regulations, and formats that apply to communications technology;

SPV.01 - effectively plan, organize, direct, and control a variety of communications activities;

SPV.02 - use current technology and production skills to develop a process or a product in response to a communications challenge or problem;

SPV.04 - use effective techniques to carry out and document the steps in pre-production, production, and post-production;

ICV.03 - identify career opportunities in the communications technology sector and the skills, education, and training required for each.

### **Specific Expectations**

TF2.02 - describe the processes of analog-digital and digital-analog signal conversion;

TF2.03 - explain how electricity and magnetism form the basis for audio and video communications;

TF2.04 - demonstrate a working knowledge of amplification and signal processing;

TF3.02 - research appropriate production techniques and recommend processes that adhere to industry standards;

SP1.01 - demonstrate the interpersonal skills required for effective teamwork;

SP1.02 - function effectively as individuals and as members of a cooperative team to produce a product or service;

SP1.04 - accurately document planning and production processes;

SP1.05 - effectively apply a variety of planning tools (e.g., storyboards, flow charts, schematic diagrams);

SP1.07 - use time management schemes to ensure that their productions meet client deadlines;

SP2.01 - set up and correctly operate the equipment and accessories required to create and modify environments for communications productions (e.g., video and audio editing suites, desktop publishing configurations, live and recorded productions, electronic communication systems, websites);

SP2.02 - select and use tools and equipment to solve a communications problem;

SP2.07 - design and set up a communications system (e.g., a computer network, audio and video editing systems, lighting grids) to perform production and post-production processes;

SP3.01 - use a variety of methods to document the planning and production processes;

SP4.01 - apply mathematical equations to solve simple problems (e.g., calculating current loads and resistance, file sizes for bitmaps, or frame rates for animation);

SP4.02 - use appropriate language in flow charts, storyboards, operation charts, scripts, and presentations;

SP4.03 - use terminology that is recognized by the communications industry;

IC1.02 - explain how communications technology has contributed to globalization and has influenced economic and social issues;

IC3.01 - explore communications programs offered by post-secondary institutions;

IC3.04 - describe the roles of unions, guilds, and associations in the communications sector.

### **Ontario Catholic School Graduate Expectations**

CGE1d - develops attitudes and values founded on Catholic social teaching and acts to promote social responsibility, human solidarity, and the common good;

CGE2c - presents information and ideas clearly and honestly and with sensitivity to others;

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CGE2e - uses and integrates the Catholic faith tradition, in the critical analysis of the arts, media, technology, and information systems to enhance the quality of life;

CGE3b - creates, adapts, and evaluates new ideas in light of the common good;

CGE3c - thinks reflectively and creatively to evaluate situations and solve problems;

CGE3d - makes decisions in light of gospel values with an informed moral conscience;

CGE3e - adopts a holistic approach to life by integrating learning from various subject areas and experience;

CGE4b - demonstrates flexibility and adaptability;

CGE4c - takes initiative and demonstrates Christian leadership;

CGE4d - responds to, manages and constructively influences change in a discerning manner;

CGE4f - applies effective communication, decision-making, problem-solving, time, and resource management skills;

CGE4g - examines and reflects on one's personal values, abilities, and aspirations influencing life's choices and opportunities;

CGE5a - works effectively as an interdependent team member;

CGE5c - develops one's God-given potential and makes a meaningful contribution to society;

CGE5e - respects the rights, responsibilities, and contributions of self and others;

CGE5f - exercises Christian leadership in the achievement of individual and group goals;

CGE5g - achieves excellence, originality, and integrity in one's own work and supports these qualities in the work of others;

CGE7b - accepts accountability for one's own actions;

CGE7e - witnesses Catholic social teaching by promoting equality, democracy, and solidarity for a just, peaceful and compassionate society;

CGE7j - contributes to the common good.

### **Prior Knowledge & Skills**

- A basic understanding of computer operations and the use of audio/video equipment would be beneficial, but is not necessary for completion of the activity.
- Students have:
  - a basic understanding of the principles of design (from Unit 1);
  - a basic understanding of video and lighting concepts (from Unit 2);
  - cooperative teamwork skills.

### **Planning Notes**

- Students keep a daily log sheet, recording brief notes of their accomplishments each day and outlining any future needs that this activity requires.
- Collect and provide examples of community service announcement digital videos that outline the steps required for successful completion of the task.
- Investigate cross-curricular connections with other subject areas, student services, Special Education/resource, and administration.
- Provide the opportunity for students to focus on specific career options and provide insights into the skills required for related professions.
- Teaching/learning strategies that allow for career links should be investigated (e.g., job shadowing, career and education research, field trips, and guest speakers). Arrange for appropriate speakers, whose careers are related to the video and digital video industry, to share their education and career paths with students. Members of the community may provide students with some insights into career opportunities and issues.

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## Teaching/Learning Strategies

### Introduction

- The teacher encourages attitudes and values, founded on Catholic social teachings, which promote social responsibility, human solidarity, and the common Good.
- The teacher facilitates a discussion by presenting statistics on the amount of time the average person watches television and graphics. Students are prompted to respond to the influence and morality of the media and the ultimate goal of graphics. The teacher challenges the class, as media creators of the future, to attempt to create work that has a positive meaningful message.
- The teacher introduces the project and presents professional and student samples of public service announcements.
- Students brainstorm a list of social issues/problems that are misrepresented or ignored by the media and discuss possible treatments that are either humorous or serious.
- The teacher emphasizes that the public service announcement must engage the audience and clearly communicate a message.
- The teacher distributes Appendix 3.2 – Community Service Criteria Checklist and has students refer to it throughout the activity.

### Pre-production and Research

- The teacher reviews format for scripts, treatment, and storyboards and describes the roles of the various members of the crew including the director, screenwriter, graphics designer, art/set director, grip, sound director, videographer, lighting technician, and DV editor.
- Students form groups and decide which topic they would like to deal with in their public service announcement.
- Groups decide on roles/responsibilities of group members.
- Students research their topics using electronic databases.
- Groups develop their scripts, storyboards/shot lists, and roles of each group member and present their final version to the class for review.

### Set-up and Rehearsal

- Students rehearse the script, go through a dry run of the various scenes, and discuss any necessary changes for production.
- Set and costume designs are completed and any graphics or live audio sounds are created.
- During this stage, the teacher reviews the basic set-up and correct, safe handling procedures for the equipment.

### Production

- Students ensure that all staging is complete, that all equipment is ready, and that any appointments necessary to use specific areas for various scenes are booked.
- Students shoot their scenes, remembering to shoot more footage than is apparently needed.

### Post-production

- The teacher discusses the essential differences and advantages of digital video non-linear editing in comparison to traditional analog linear editing, while using a computer projection system to demonstrate the basics of the digital editing software.
- Students complete a series of tutorials that assist them in learning how to do basic editing, titling, transitions, audio effects, special video effects, and importing and exporting of digital video.
- Students edit their public service announcements and present them to the class for critiquing. (Final outputting solutions are discussed in Activity 4.)

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## Assessment & Evaluation of Student Achievement

Students assess the contribution of the individual group members by completing daily log sheets, personal communication, and self-/peer assessments.

Self-, peer, and group evaluation sheets are filled out at the end of the project.

Summative assessment of equipment worksheets and quizzes:

- paper-and-pencil test.

Summative assessment of completed worksheets (proposal sheets, scripts, and storyboards):

- personal communication – teacher/student conferencing.

Summative assessment of finished instructional video.

Summative assessment of project presentation and class discussion of student work.

- performance assessment of finished presentation;
- personal communication through self-/peer and group assessment and critique.

The teacher also assesses students' productions based on their creativity and detail, the understanding they demonstrate of the concepts and process of creating film, and the overall clarity and organization of the final product.

## Accommodations

- Teachers should be acquainted with exceptional students' Individual Education Plans (IEPs) and their unique learning characteristics in order to make the necessary accommodations. Teachers should be aware of students who require modification to the mandated expectations for this course. *Ontario Secondary Schools* (p. 24) allows teachers to modify the learning expectations for exceptional students in order to support the contents of the student's IEP. This applies also to students who have not been identified as exceptional but are receiving Special Education programs and services.
- Students with special needs can be given appropriate timelines for completion of this activity.
- Peer tutoring is given to those students who need extra help.
- Student-to-student discussion and teacher-to-student conferencing should occur throughout the project.
- Peer tutors assist students with special needs when handling equipment.
- For enrichment, students may use this technology to propose an entrepreneurial opportunity for the community, another subject area, or for the school.

## Resources

### General

- Teacher-developed resources including handouts, worksheets, and activity sheets
- Various samples of instructional videos
- Student exemplars
- Manufacturer's equipment manuals
- Software manuals and tutorial exercises
- The school Library/Resource Centre

### Books

Andersen, Neil and John Punjente. *Scanning Television: Videos for Media Literacy in Class*. Toronto: Harcourt Brace & Company, 1997. ISBN 0-7747-0173-0

Grebler, Ron. *Desktop Digital Video*. USA: Prompt, 1997. ISBN 0-7906-1095-7

Hitchcock, Peter. *Videography: The Guide to Making Videos*. Toronto: Peter Hitchcock Productions Inc. and TV Ontario, 1992. ISBN 0-9696-2610-X

Hone, Rick and Liz Flynn. *Video in Focus: A Guide to Viewing and Producing Video*. Toronto: Globe/Modern Curriculum Press, 1992. ISBN 0-8899-6344-4

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Hone, Rick and Liz Flynn. *Video in Focus: A Guide to Viewing and Producing Video, Teacher's Guide*. Toronto: Globe/Modern Curriculum Press, 1992. ISBN 0-8899-6281-2

Kyker, Keith and Christopher Curchy. *Television Production: A Classroom Approach*. USA: Libraries Unlimited, 1993. ISBN 1-5630-8101-6

Ohanian, Thomas and Michael Phillips. *Digital Filmmaking: The Changing Art and Craft of Making Motion Pictures*. USA: Butterworth-Heinemann, 1996. ISBN 0240802195

Ohanian, Thomas. *Digital Nonlinear Editing: Editing Film and Video on the Desktop*. USA: Butterworth-Heinemann, 1992. ISBN 024080175X

Rose, Jay. *Producing Great Soundtracks for Digital Video*. USA: Miller Freeman, 1999. ISBN 0879305975

### **Video**

*Adbusters Culture Jammer's Video*. Vancouver: The Media Foundation, 1997. 16 min.

*Graphic Mania: Highlights from the Weirdest, Wackiest, Wildest Graphics of the 50's and 60's*. California: Rhino Video, 1987. 30 min. RNVD 902

*Basic Shooting*. USA: Videomaker, Inc., 1994. 42 min.

*Manufacturing Consent: Noam Chomsky and the Media*. Canada: National Film Board of Canada, 1995. 169 min. ISBN 0-7722-0464-0

*Video Editing*. USA: Videomaker, Inc., 1994. 47 min.

*Videography: The Guide to Making Videos*. Toronto: Peter Hitchcock Productions Inc. and TV Ontario, 1992. Eight 30-minute videos.

### **Magazines**

*Adbusters: Journal of the Mental Environment*. Vancouver: Lasn and Schmalz.

*Digital Imaging*. New York: Cygnus Publishing.

*Digital Video*. USA: Miller Freeman Publications.

*New Media.pro*. Toronto: Southam Inc.

*Video Systems*. USA: Interac/Primedia Publication.

*VideoMaker*. USA: VideoMaker Inc.

### **Websites**

2-Pop — <http://www.2-pop.com/>

Digital video/editing articles, tutorials, links to user groups, and equipment information.

Apple DV — <http://www.apple.com/education/dv/>

Desktop Movies in Apple Education, links to curriculum, firewire information.

Digital Imaging Magazine — <http://www.digitalimagingmag.com>

Digital video/editing on-line articles, links to user groups, and equipment information.

Challenge 2000 Multimedia Project Video Guide

<http://pblmm.k12.ca.us/TechHelp/VideoHelp/VideoGuide.html>

Student and teacher resource including glossaries and activities for video production.

Computer Video Magazine Online — <http://www.computervideo.net/>

DV curriculum ideas.

Digital Image — <http://www.digitalimage.ca/>

DV curriculum ideas.

Digital Video for Education — <http://www.ncsa.uiuc.edu/Cyberia/DVE/FusionDVE/>

DV curriculum ideas.

Digital Video Magazine — <http://www.dv.com>

Digital video/editing on-line articles, links to user groups, and equipment information.

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Digital Video Professional Association — <http://www.dvpa.com/>

Variety of professional tips and reviews.

New Media.pro Magazine — <http://www.newmediapromagazine.com>

Canadian source of DV/editing, articles, links to user groups, and equipment information.

Videomaker Magazine — <http://www.videomaker.com>

Video/editing on-line articles, links to user groups, and equipment information.

Videonics Systems — <http://www.videonics.com>

Articles on video/editing, links to user groups, industry, and equipment information.

Video Systems Magazine — <http://www.videosystems.com>

Video/editing on-line articles, links to user groups, and equipment information.

## **Activity 4: “Re-purposing” Digital Video – Digital Editing Output Options**

**Time:** 300 minutes

### **Description**

Students acquire theoretical knowledge of new media, output possibilities, transfer rates, and concepts of re-purposing digital media with a focus on digital video. Digital videos produced in Activity 3 are rendered with a compression software application. Students output their Community Service Announcement to the Web, compact disc, and VHS tape. Appropriate compression rates are learned in relation to methods of delivery.

*Re-purposing*, a term coined by Nickolas Negroponte, professor of Media Technology at MIT and author of *Being Digital*, is maintained in their presentation.

### **Strand(s) & Learning Expectations**

**Strand(s):** Theory and Foundation, Skills and Processes, Impact and Consequences

#### **Overall Expectations**

TFV.02 - identify and describe the components and processes that make up each of the following: electronic, live, recorded, and graphic communications;

TFV.04 - describe industry standards, regulations, and formats that apply to communications technology;

SPV.02 - use current technology and production skills to develop a process or a product in response to a communications challenge or problem;

SPV.03 - set up, operate, and maintain a communications system and analyse its efficiency;

SPV.05 - use mathematical and language skills effectively and apply scientific principles in the design of electronic, live, recorded, and graphic communications systems;

ICV.03 - identify career opportunities in the communications technology sector and the skills, education, and training required for each.

#### **Specific Expectations**

TF1.01 - explain how a human need or want can be met through a new or improved product;

TF2.02 - describe the processes of analog-digital and digital-analog signal conversion;

TF2.04 - demonstrate a working knowledge of amplification and signal processing;

TF2.05 - identify the advantages of various formats for specific applications;

TF2.06 - summarize the configurations for a variety of electronic, live, recorded, and graphic systems, and develop a plan to set up and manage the systems;

TF3.02 - research appropriate production techniques and recommend processes that adhere to industry standards;

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TF3.03 - select the appropriate formats for electronic, live, recorded, and graphic productions;  
SP1.06 - select and use appropriate software to manage the production process;  
SP1.07 - use time management schemes to ensure that their productions meet client deadlines;  
SP2.02 - select and use tools and equipment to solve a communications problem;  
SP4.03 - use terminology that is recognized by the communications industry;  
SP4.04 - apply scientific principles related to light, magnetism, and basic digital fundamentals;  
IC1.02 - explain how communications technology has contributed to globalization and has influenced economic and social issues;  
IC3.05 - explain the importance of lifelong learning for individuals in the communications technology sector.

### **Ontario Catholic School Graduate Expectations**

CGE2c - presents information and ideas clearly and honestly and with sensitivity to others;  
CGE2f - uses and integrates the Catholic faith tradition, in the critical analysis of the arts, media, technology, and information systems to enhance the quality of life;  
CGE3c - thinks reflectively and creatively to evaluate situations and solve problems;  
CGE3e - adopts a holistic approach to life by integrating learning from various subject areas and experience;  
CGE4b - demonstrates flexibility and adaptability;  
CGE4e - sets appropriate goals and priorities in school, work, and personal life;  
CGE4f - applies effective communication, decision-making, problem-solving, time, and resource management skills;  
CGE5a - works effectively as an interdependent team member;  
CGE5e - respects the rights, responsibilities and contributions of self and others;  
CGE5f - exercises Christian leadership in the achievement of individual and group goals;  
CGE7b - accepts accountability for one's own actions;  
CGE7j - contributes to the common good.

### **Prior Knowledge & Skills**

- A basic understanding of computer operations and the use of audio/video equipment would be beneficial, but is not necessary for completion of the activity.
- Students have:
  - a basic understanding of video concepts (Unit 2);
  - a basic understanding of digital video concepts (Unit 3, previous activities);
  - cooperative teamwork skills.

### **Planning Notes**

- Students keep a daily log sheet, recording brief notes of their accomplishments each day and outlining any future needs that this activity requires.
- Collect and provide examples of community service announcement digital videos that outline the steps required for successful completion of the task.
- Investigate cross-curricular connections with other subject areas, student services, Special Education/resource, and administration.
- Provide the opportunity for students to focus on specific career options and provide insights into the skills required for related professions.
- Teaching/learning strategies that allow for career links should be investigated (e.g., job shadowing, career and education research, field trips, and guest speakers). Arrange for appropriate speakers, whose careers are related to the video and digital Video industry, to share their education and career paths with students. Members of the community may provide students with some insights into career opportunities and issues.

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## Teaching/Learning Strategies

- The teacher encourages attitudes and values, founded on Catholic social teachings, which promote social responsibility, human solidarity, and the common Good.
- Students brainstorm all the possible venues and formats for presenting their video; the class discusses the pros and cons of each.
- The teacher presents samples of the same digital video that have been created for on-line viewing but have been created/output with a variety of compression Codecs and formats (Quicktime, AVI, or MOV). The teacher also presents the same video directly from the DV camera (Firewire/IEEE1394) and from a copy on VHS tape.
- Students take note of the variations of image quality, time to compress and decompress the digital video, interactive response time, and the file size of the compressed digital video.
- The teacher uses a computer projection system to demonstrate the basics of the video, audio, and streaming options/compressors of the DV editing software or of a separate DV compression software.
- Students output their Community Service Announcement to the Web, compact disc, and VHS tape using appropriate compression Codecs.
- Final videos are viewed and critiqued by the class.

## Assessment & Evaluation of Student Achievement

Formative assessment of each student's ability to work cooperatively in group situations:

- self-, peer, and group evaluation sheets are filled out at the end of the project .

Summative assessment of equipment worksheets and quizzes:

- paper-and-pencil test.

Summative assessment of the concepts and techniques utilized in this activity.

Summative assessment of project presentation and class discussion of student work:

- performance assessment of finished presentation – presentation rubric personal communication through self-, peer, and group assessment and critique;
- reflection through self-, peer, and group assessment.

## Accommodations

- Teachers should be acquainted with exceptional students' Individual Education Plans (IEPs) and their unique learning characteristics in order to make the necessary accommodations. Teachers should be aware of students who require modification to the mandated expectations for this course. *Ontario Secondary Schools* (p. 24) allows teachers to modify the learning expectations for exceptional students in order to support the contents of the student's IEP. This applies also to students who have not been identified as exceptional but are receiving Special Education programs and services.
- Students with special needs can be given appropriate timelines for completion of this activity.
- Peer tutoring is given to those students who need extra help.
- Student-to-student discussion and teacher-to-student conferencing should occur throughout the project.
- Peer tutors assist students with special needs when handling equipment.
- For enrichment, students may use this technology to propose an entrepreneurial opportunity for the community, another subject area, or for the school.
- For enrichment, students may enter their videos in a film festival or organize their own film festival or video night.
- For enrichment, students may upload the group's video to the school website or to an appropriate organization's website.

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## Resources

### General

- Teacher-developed resources including handouts, worksheets, and activity sheets
- Student exemplars
- Manufacturer's equipment manuals
- Software manuals and tutorial exercises
- The school Library/Resource Centre

### Books

- Bell, Timothy. *Text Compression*. Canada: Prentice-Hall Canada Inc., 1990. ISBN 0139119914
- Bell, Timothy, Jan Witten, and Alistair Cleary. *Managing Gigabytes: Compressing and Indexing Documents and Images*. Canada: Morgan Kaufmann, 1999. ISBN 1558605703
- Brenneis, Lisa. *Final Cut Pro For Macintosh: Visual QuickPro Guide*. USA: Peachpit Press, 1999. ISBN 0201354802
- Grebler, Ron. *Desktop Digital Video*. USA: Prompt, 1997. ISBN 0-7906-1095-7
- Negroponte, Nickolas. *Being Digital*. Canada: Random House Canada, 1996. ISBN 0679762906
- Ohanian, Thomas and Michael Phillips. *Digital Filmmaking: The Changing Art and Craft of Making Motion Pictures*. USA: Butterworth-Heinemann, 1996. ISBN 0240802195
- Ohanian, Thomas. *Digital Nonlinear Editing: Editing Film and Video on the Desktop*. USA: Butterworth-Heinemann, 1992. ISBN 024080175X
- Rose, Jay. *Producing Great Soundtracks for Digital Video*. USA: Miller Freeman, 1999. ISBN 0879305975
- Watkinshaw, John. *MPEG 2*. USA: Focal Press, 1999. ISBN 0240515102

### Magazines

- Digital Imaging*. New York: Cygnus Publishing.
- Digital Video*. USA: Miller Freeman Publications.
- New Media.pro*. Toronto: Southam Inc.
- Video Systems*. USA: Interac/Primedia Publication.

### Websites

- 2-Pop — <http://www.2-pop.com/>  
Information on digital video, articles, and tutorials. Links to user groups and equipment information.
- Apple DV — <http://www.apple.com/education/dv/>  
Desktop Movies in Apple Education, links to curriculum, and firewire information.
- Computer Video Magazine Online — <http://www.computervideo.net/>  
DV curriculum ideas
- Digital Image — <http://www.digitalimage.ca/>  
Digital video/editing articles, tutorials, links to user groups, and equipment information.
- Digital Video Magazine — <http://www.dv.com>  
Digital video/editing on-line articles, links to user groups, and equipment information.
- Digital Video Professional Association — <http://www.dvpa.com/>  
Variety of professional tips and reviews
- New Media.pro Magazine — <http://www.newmediapromagazine.com>  
Canadian source of DV/editing, articles, links to user groups, and equipment information.
- Videomaker Magazine — <http://www.videomaker.com>  
Video/editing on-line articles, links to user groups, and equipment information.

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Videonics Systems — <http://www.videonics.com>

Articles on video/editing, links to user groups, industry, and equipment information.

Video Systems Magazine — <http://www.videosystems.com>

Video/editing on-line articles, links to user groups, and equipment information.

Video University — <http://www.videouniversity.com/>

Video/editing on-line articles, links to user groups, and equipment information.

Worldwide Users Groups Forum — <http://www.wwug.com/forums/index.htm>

A good source of video/editing on-line articles, links to user groups, and equipment information.

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## Appendix 2.1

### Lighting Questionnaire

(Answers in *italic*)

1. State the difference between directional light and diffused light.  
*Directional light has a focused beam creating distinct shadows. Diffused light has a wide, indistinct beam that lights a wide area and softens shadows.*
2. In what unit is light intensity measured?  
*Foot-candles (ft-c)*
3. Explain the concept of falloff.  
*Falloff is the speed (fast or slow) at which the illuminated area of an object or area turns into a shadow area.*
4. Identify the colours used and explain additive colour mixing.  
*Red, green, and blue are the primary additive colours. Adding the primary additive colours together in varying proportions produces different colours of light.*
5. What is Colour Temperature? What is a low colour temperature and what is a high colour temperature?  
*Colour Temperature is the relative degree to which light is red or blue. Reddish light has a low colour temperature and bluish light has a high colour temperature.*
6. Identify the components for the three-point, or triangle, lighting principle.  
*Three-point lighting uses a key light, a fill light, and a back light.*
7. Explain the function of the lights used in a three-point lighting set-up.  
*Key light illuminates the basic shape, a fill light fills or softens shadow areas, and a back light provides separation of the object from its background.*
8. What are the two categories of lighting instruments?  
*Spotlights and floodlights*
9. What type of falloff does a spotlight create?  
*A spotlight creates fast falloff.*
10. List the four basic objectives of studio lighting.  
*Provide a sufficient level of illumination for the available camera equipment.  
Create a three-dimensional perspective.  
Use light and shadow to direct attention in a scene.  
Establish mood.*

Adapted from: Zettl, Herbert. *Video Basics*. Toronto: Nelson Canada, 1995.  
Wurtzel, Alan. *Television Production*. Toronto: McGraw-Hill, 1989.

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## Appendix 2.2

### Audio Checklist

#### Preparation of Equipment

Choose and test the correct microphone for the job:

Omni-directional	_____
Bi-directional	_____
Cardioid	_____
Hand-held	_____
Lavalier	_____
Boom	_____
Windscreens if necessary	_____

Necessary cables: make sure your connectors fit the outputs and inputs of the recording equipment to be used.

XLR	_____
¼" phono plug	_____
RCA phono plug	_____
Mini plug	_____
Audio Mixing board	
Recording cables	_____
Power source cables	_____
Headphones (with adapters)	_____
Storage medium (audio tape or videotape)	_____

#### Sound Quality Check

Audible	_____
Consistent overall volume level	_____
Volume levels balanced from different sources	_____
High, mid, and low frequencies balanced for each source	_____
No line interference, hum, or squeal	_____
No unwanted background or microphone noise	_____
Separation in main (figure) and ambient sounds (ground)	_____
Sound perspective corresponds to visual image	_____

Adapted from: Zettl, Herbert. *Video Basics*. Toronto: Nelson Canada, 1995.  
Wurtzel, Alan. *Television Production*. Toronto: McGraw-Hill, 1989.  
Alkin, Glyn. *Sound Recording and Reproduction*. London: Focal Press, 1987.  
Utz, Peter. *Recording Great Audio*. USA: Quantum Publishing, Inc., 1989. ISBN 0-930633-15-6

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## Appendix 2.3

### Video Questionnaire

(Answers in *italic*)

1. On the supplied diagram (teacher should supply a diagram for available cameras), label all of the function controls for the camera. (The teacher needs the operations manual for their specific camera.)
2. Explain “field of view”.  
*Field of view is that portion of a scene visible through a particular lens.*
3. Explain “depth of field”.  
*The area in which all objects, located at different distances from the camera appear in focus.*
4. With respect to video recording what are “vectors”?  
*A vector is a directional screen force. There are graphic, index, and motion vectors.*
5. What term is used to define the process of filling in missing visual information in a video frame?  
*Psychological Closure*
6. What is the difference between a dolly in shot and a zoom in shot?  
*A dolly in moves the camera toward the subject. A zoom in brings the object to the camera.*
7. How do you “white balance” a video camera? Why is it important to white balance your camera?  
*To white balance your camera, focus and fill the frame with a white object and press the white balance button. It is important to white balance your camera because your camera’s colour calibration is based on this reading of true white. Different types of lighting demand that you white balance in order to maintain a constant colour balance.*
8. Define the term “switching”.  
*Switching means instant editing from simultaneously available video sources.*
9. What is the device called that allows for superimpositions, dissolves, fades, keys, and wipes on the video switcher?  
*Fader bar*
10. What is a “cutaway shot”?  
*A cutaway is a brief shot with neutral vectors that helps improve or establish visual continuity between two shots*

Adapted from: Zettl, Herbert. *Video Basics*. Toronto: Nelson Canada, 1995.  
Wurtzel, Alan. *Television Production*. Toronto: McGraw-Hill, 1989.

## Appendix 2.4

### Video Production Rubric

Expectations/Criteria	Level 1 (50-59%)	Level 2 (60-69%)	Level 3 (70-79%)	Level 4 (80-100%)
<b>Application</b> SPV.01 Uses knowledge of video equipment, procedures, and techniques to organize, direct, and control the production process	- participates in the organization, direction, and control of the production process to a limited extent	- participates in the organization, direction, and control of the production process to some extent	- participates in the organization, direction, and control of the production process to a considerable extent	- participates in the organization, direction, and control of the production process to a thorough extent
SPV.02 Uses knowledge of video equipment, procedures, and techniques to create meaningful video content	- uses knowledge to create video content with limited meaning	- uses knowledge to create video content with some meaning	- uses knowledge to create video content with considerable meaning	- uses knowledge to create video content with high level of meaning
SP1.02 Uses knowledge of video equipment, procedures, and techniques to effectively perform assigned production role	- performs assigned production role with limited effectiveness	- performs assigned production role with some effectiveness	- performs assigned production role with considerable effectiveness	- performs assigned production role with high level of effectiveness
SP1.03 Uses time-management and problem-solving skills in production and post-production situations	- limited use of time-management and problem-solving skills	- some use of time-management and problem-solving skills	- considerable use of time-management and problem-solving skills	- thorough use of time-management and problem-solving skills
SP2.03, SP2.07 Sets up, uses, and stores the necessary video, audio, and lighting components of a studio production system	- limited contribution to set-up of production system	- some contribution to set-up of production system	- considerable contribution to set-up of production system	- high level of contribution to set-up of production system
IC2.01 Applies safe work practices when handling equipment	- minimal application of safe work practices	- some application of safe work practices	- considerable application of safe work practices	- thorough application of safe work practices

**Note:** A student whose achievement is below level 1 (50%) has not met the expectations for this assignment or activity.

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## Appendix 3.1

### Glossary of Digital Audio Terms

*8- & 16-bit Audio* — A unit of measure that indicates the resolution of a digitized sound sample. The higher the resolution, the better the audio fidelity. Audio that is digitized using 8 bits of resolution is slightly better in fidelity than normal AM radio. 16-bit audio is the standard used for standard audio CDs.

*AIFF* — Audio Interchange format, developed by Apple Macintosh for music and high-quality sound.

*AU* — Sun Audio format, originally designed for use on Sun UNIX systems.

*AVI* — Audio-Video Interleaved is the file format that Microsoft specifies for video for Windows. Blocks of video and audio data are interspersed together in this format.

*CD-Audio* — Sounds that have been digitized at a sampling rate almost high enough to duplicate reality. CD-audio is the same format and quality as the discs played on a CD player.

*CODEC* — An acronym for Compressor/Decompressor, an algorithm or scheme used when recording digital video. Many CODEC schemes are available, depending on image quality and file size.

*Compact Disc Digital Audio*, or *CD-DA* — Musical or audio information that is encoded digitally. CD-DA is the standard format used by the music industry.

*Compression* — A process that allows data to be stored or transmitted using less than the normal number of bits.

*DAT/Digital Audio Tape* — This is a method of recording digital audio information on tape at a high density and high quality.

*Decode* — In multimedia, this term refers to decompressing a compressed (encoded) file so that it may be displayed. Codecs do this decoding while the video/audio is played.

*Digital* — The method in which data (usually computer data or audio CDs) is recorded. A digital signal is an electronic signal that is defined by a series of binary numbers (0s and 1s). Common digital devices are the audio CD player and the computer.

*Digitize* — The process of converting analog data to digital data.

*Dynamic Range* — The span of volume between the loudest and softest sounds in audio recording. Sample size affects dynamic range. 16-bit audio yields a dynamic range of 96 dB, and 8-bit audio yields 48 dB.

*MIDI* — Acronym for Musical Instrument Digital Interface. It is a standard communications protocol, used by electronic music equipment, allowing device control from personal computers.

*MIDI time code* — A time code system allowing timed device control through MIDI protocols.

*MPEG* — Moving Picture Experts Group: Often used to refer to the standard file format and set of compression algorithms jointly developed by the Moving Picture Experts Group to handle video and audio. The various forms of MPEG are used for a wide range of video and audio applications, from desktop computer presentations and games to consumer DVD players and satellite video systems.

*MPEG-1* — The format which produces high-quality video and audio streams at approximately 2x CD-ROM data rates. Standard MPEG-1 is full frame rate (24 to 30 fps, depending on the source) with a quarter size image (352 x 240), and is useful for playback on most new desktop computers.

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## Appendix 3.1 (Continued)

*MPEG-2* — The format which produces high data rate, full broadcast quality files. MPEG-2 playback requires an extremely fast computer and video card, or a hardware accelerator card. MPEG-2 is the format for DVD-video and many home satellite dish systems. Standard MPEG-2 is full frame rate (24 to 30 fps) and full screen resolution (720 x 480).

*MPEG Layer-2 Audio* — Generally used for high bandwidth MPEG audio at near-CD quality. Used for audio with both MPEG-1 and MPEG-2.

*MPEG Layer-3 Audio (MP3)* — MPEG audio format which is very popular on the Internet. Generally used in audio-only files (.mp3 files), this is a lower-bandwidth format than MPEG Layer-2 audio, but still not ideal for modem streaming.

*RA* — Real Audio is a format for supplying streaming audio over the Web. This means that the user's computer can begin playing the sound file as soon as the first few packets of information are received. The user does not have to wait for the entire sound file to be downloaded before it can be played. This makes Real Audio suitable for supplying very long pieces of sound information over the Web.

*Streaming* — Refers to network delivery of media. It may refer to technologies that match the bandwidth of the media signal to the viewer's connection, so that the media is always seen in realtime "true streaming." Also used to mean media which can be viewed over a network prior to being fully downloaded "http streaming."

*WAV* — Waveform sound was developed for use with Microsoft Windows. If you have a Windows PC with a sound card, you will probably already have software that enables you to record sounds and store them on your hard disk in .wav format.

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## Appendix 3.2

### Community Service Announcement: Specific Criteria Checklist

#### Concept/Content/Target Audience

- Does the project communicate its concept?
- Does the project exhibit depth and insight about the topic?
- Is the information factual and is it researched from several relevant sources?
- Does the project deal with the subject matter in a novel, innovative way?
- Does the project address the needs and/or interests of the target audience?

#### Composition

- Is each sequence staged with a centre of interest?
- Is contrast used to direct the attention of the viewer?
- Are any of the sequences cluttered?
- Does the composition create a suitable mood or enhance the strength of the story/message?

#### Narrative Structure/Sequencing

- Are the sequences properly structured?
- Are montages used in the project to show characters' reactions or influences on the behaviours/attitudes of the characters?
- Are the action shots properly sequenced?
- Is there an appropriate pacing of shots and a variety of shot lengths?
- Does the structure create a suitable mood or enhance the strength of the story/message?

#### Art and Set Design/Direction

- Is the set realistic? If not, why?
- Is there sufficient and appropriate lighting?
- Do the set, costume design, and lighting create a suitable mood or enhance the strength of the story/message?

#### Shot Selection

- Is one type of shot dominant in the project?
- Is a traditional sequencing of shots used in the project (ES-XLS-LS-MS-CU-ECU)?
- Does each shot have a definite purpose?
- Is there a variety of shots?
- Does the shot selection create a suitable mood or enhance the strength of the story/message?

#### Camera Technique

- Are POV shots used appropriately?
- Does each frame contain adequate lead/look room?
- Is the rule of thirds adhered to?
- Are the camera angles appropriate? Interesting?
- Does the camera tilt to establish power relationships when appropriate?
- Are camera movements appropriately used?
- Are camera movements smooth and fluid?
- Do the camera techniques create a suitable mood or enhance the strength of the story/message?

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## **Appendix 3.2 (Continued)**

### **Audio Technique**

- Does the soundtrack serve to underscore and/or counterpoint the meaning of the visual images in the project?
- Is the VO/dialogue appropriate?
- Is the split edit technique used when appropriate?
- Does the audio create a suitable mood or enhance the strength of the story/message?

### **Editing**

- Are digital video effects (e.g., filters) used to enhance the meaning?
- Is montage used? Does it serve a definite purpose?
- Are the transitions appropriate for the project?
- Are jump cuts used for dramatic effect?
- Are cross-dissolves used to link sequences?
- Is one type of transition dominant? If so, why?
- Does the editing create a suitable mood or enhance the strength of the story/message?