2011
Saskatchewan Curriculum

Photography 10, 20, 30

Ministry of Education

Photography 10, 20, 30
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Introduction

The Photography curriculum is designed with modules to complete three 100-hour courses. Modules also can be selected to use in survey courses in the middle and secondary levels. Each module contains a single learning outcome with a number of indicators showing the depth and breadth of the student learning required in each module. Middle level programs should focus on modules labelled as Introductory.

Curriculum Features

Curricula in the Practical and Applied Arts (PAA) have several features unique to this area of study. The reasons for inclusion of these features in all PAA curricula are to encourage flexibility in school programming, to establish clearly transferable skills, and to ensure the practical emphasis of the program.

PAA curricula contain all courses in a **single document,** whether it is one course such as Entrepreneurship or a series of five courses as in Autobody. This feature allows schools and teachers the flexibility to choose modules supportive of their students' needs as well as utilize the available facilities and equipment. The order and number of outcomes in a course can vary between schools as long as the integrity of the discipline and the required 100 hours per course are maintained.

All PAA curricula are designed using **modules** with a single outcome for students to achieve. To aid teachers and schools in course planning, each module is designated as Introductory, Intermediate, or Advanced. Modules also may have prerequisites which must be completed by the student as the knowledge (factual, conceptual, procedural, metacognitive) is cumulative. Core modules are compulsory modules that must be covered in pure courses of study for developmental or safety reasons. Each module provides a suggested time to aid teachers in planning their courses. Each module may take more or less than the suggested time depending on factors such as background knowledge of the students.

A third unique feature of PAA curricula is the inclusion of an optional **Extended Study** module in each course. The Extended Study module allows teachers to create their own outcome and indicators relevant to the purpose and areas of focus for the subject to meet their students' needs. As innovations occur in the knowledge and technology of various areas of study, the Extended Study modules are one way that teachers can ensure their programs stay current with industry practice.

Work Study modules contained in all PAA curricula encourage personalized learning and development of community relationships. Work Study is designed as a work-based learning portion of a course to

provide off-campus educational opportunities for individuals or small groups in a work setting. Planning and assessment are managed by the teacher, while the learning opportunity is provided by an expert in the community. Practical skills developed in school are directly transferred to a work environment.

Another feature unique to the Practical and Applied Arts is the availability of **module tracking** within the provincial Student Data System. This service, provided by the Ministry of Education, allows teachers to enter completed modules into the Student Data System to create a record and printout of all the PAA modules experienced during a student's school career. This record can be provided to students in their report cards for use in a portfolio or for inclusion on a resumé.

Transferable skills are a desirable aspect of lifelong learning. Transferable skills developed in PAA are many and varied, from operating large stationary power equipment to utilizing video editing software. The practical nature of these transferable skills enriches students' lives as they transition into post-secondary life. In Canada, two taxonomies of transferable work skills have been developed. The Conference Board of Canada developed a list of Employability Skills and Human Resources and Service Development Canada identified a series of Essential Skills. Students will be familiar with both of these taxonomies from their learning in grade 8 Career Education.

More details on the above curriculum features are provided in the Practical and Applied Arts Handbook available on the Ministry of Education website.

Core Curriculum

Core Curriculum is intended to provide all Saskatchewan students with an education that will serve them well regardless of their choices after leaving school. Through its components and initiatives, Core Curriculum supports student achievement of the Goals of Education for Saskatchewan. For current information regarding Core Curriculum, please refer to *Core Curriculum: Principles, Time Allocations, and Credit Policy* on the Saskatchewan Ministry of Education website. For policy and foundation documents related to the components and initiatives of Core Curriculum, please refer to the Ministry website at *www.education.gov.sk.ca/policy*.

Broad Areas of Learning

Three Broad Areas of Learning reflect Saskatchewan's Goals of Education and express the desired attributes for Saskatchewan's grade 12 graduates. Practical and Applied Arts contributes to the Goals of Education through helping students achieve knowledge, skills, and attitudes related to these Broad Areas of Learning.

Lifelong Learners

Related to the following Goals of Education:

- *Basic Skills*
- *Lifelong Learning*
- *Positive Lifestyle*

In the course of learning during Practical and Applied Arts classes, students will gain a positive sense of identity and efficacy through development of practical skills and knowledge. The Practical and Applied Arts curricula are closely related to careers found in Saskatchewan and, therefore, are directly connected to lifelong learning, whether in a professional career or through hobbies and personal interests.

Sense of Self, Community, and Place

Related to the following Goals of Education:

- *Understanding and Relating to Others*
- *Self-Concept Development*
- *Spiritual Development*

To engage in the Practical and Applied Arts, students not only need to use knowledge and skills but also must interact with each other. Through the Practical and Applied Arts, students learn about themselves, others, and the world around them. They use their new understanding and skills to explore who they are, who they might become, and how they can contribute to the larger community in which they live. Practical and Applied Arts programming should vary by school to reflect the community at large. Community projects play a key role in Practical and Applied Arts programming and connect the school more closely to the community.

Engaged Citizens

Related to the following Goals of Education:

- *Career and Consumer Decisions*
- *Membership in Society*
- *Growing with Change*

Engaged citizens have empathy for those around them and contribute to the well-being of the community as a whole. Practical and Applied Arts students learn how new skills and abilities enable them to make a difference in their personal lives as well as in their family and community. Skills and abilities gained in Practical and Applied Arts classes build a sense of confidence which encourages students to participate effectively in their world.

Cross-Curricular Competencies

The Cross-curricular Competencies are four interrelated areas containing understandings, values, skills, and processes that are considered important for learning in all areas of study. In the Practical

K-12 Goals for Developing Thinking:

- *Thinking and learning contextually*
- *Thinking and learning creatively*
- *Thinking and learning critically.*

K-12 Goals for Developing Identity and Interdependence:

- *Understanding, valuing, and caring for oneself (intellectually, emotionally, physically, spiritually)*
- *Understanding, valuing, and caring for others*
- *Understanding and valuing social, economic, and environmental interdependence and sustainability.*

K-12 Goals for Developing Literacies:

- *Constructing knowledge related to various literacies*
- *Exploring and interpreting the world through various literacies*
- *Expressing understanding and communicating meaning using various literacies.*

K-12 Goals for Developing Social Responsibility:

- *Using moral reasoning processes*
- *Engaging in communitarian thinking and dialogue*
- *Taking social action.*

and Applied Arts, the Cross-curricular Competencies also relate to lifelong learning through career development and transitions to post-secondary training, education, and work.

Developing Thinking

Learners construct knowledge through application of prior experiences in their lives to new contexts. Practical and Applied Arts not only present new contexts but present them in real world situations. For example, students will solve problems, test hypotheses, design models, and analyze products during Practical and Applied Arts classes.

Developing Identity and Interdependence

Developing identity includes exploring career opportunities through the Practical and Applied Arts. As students gain experience in various Practical and Applied Arts classes, they create a sense of efficacy to contribute not only to their own well-being but also to those around them. The Practical and Applied Arts provide effective interaction between students, as well as opportunities to contribute skills and abilities to the larger community.

Developing Literacies

Literacies provide many ways to express a personal understanding of the world. Literacy in the world of Practical and Applied Arts can mean interpreting symbols on a welding diagram or creating a computer code for an interactive media website. The use of technology to communicate ideas and information is key to many of the Practical and Applied Arts.

Developing Social Responsibility

Contributing positively to one's natural, social, and constructed environments underlies the knowledge and skills developed through the Practical and Applied Arts. Individual interests and talents can be nurtured through the Practical and Applied Arts and directed toward contributions to the community. Projects including teamwork, consensus building, and diversity enhance the development of social responsibility.

Purpose and Areas of Focus for Photography

The purpose of Photography 10, 20, 30 is to provide students with opportunities to acquire knowledge and develop skills used in photography and to become familiar with career opportunities within the industry.

Areas of Focus identify the key components that students are expected to know, understand, and be able to do upon completion of the learning in a Practical and Applied Arts curriculum. Because the PAA curricula generally contain more learning than one course (1 credit), the Areas of Focus are not meant to be attained completely after 100 hours of learning. The Areas of Focus for Photography are to:

- develop technical skills in the use of cameras including the photographic triangle
- analyze and utilize the principles of composition and design
- develop image manipulation skills to create aesthetically satisfying pictures
- explore various occupations available in the ever-broadening field of photography.

Teaching Photography

Differences between taking pictures and creating photographs should be emphasized with students, especially at the beginning levels of the course. Many students will have cameras with which they may be accustomed to the "point and shoot" method of picture taking. Creating photographs includes concepts such as composition, lighting, settings, and planning. Teachers can facilitate these processes and attitudes by creating and discussing a set purpose for the shoot.

Portfolios show evidence of growing competence when combined with student reflection. Whatever style of portfolio is used, they should be developed over the year(s) to provide a record of experience and growing expertise. Images should become more complex as students gain experience. Technical expertise should be reflected in the artistic portrayal of student work.

Schools and teachers often are concerned about the quality of the cameras and other supports such as software. Equipment requirements for modules beyond the Introductory modules include cameras which have manual control over shutter speed, focal length, ISO settings, and aperture. Purchasing equipment with common storage cards and batteries may prove beneficial in the long run. Teachers may have to create unique budget requests with the support

of administration to enact effective purchasing requiring large capital costs. Teachers may find that many students have their own cameras which meet the technical requirements of the modules.

Film photography has not been entirely excluded from this curriculum. Teachers wishing to utilize a wet darkroom can refer to the previous curriculum and use Module 99 Extended Study to create outcomes in support of using a wet darkroom.

Safety should be a theme throughout the course. Students should be able to recognize hazards and work to avoid unintentional injuries. Safety includes protecting oneself and others from potential hazards (e.g., climbing on a structure to get a different angle, working close to traffic or railway tracks).

Taking pictures with a camera includes respecting other people and surroundings. Consent from individuals may need to be obtained. Awareness of school policies as well as provincial and federal laws ensures proper procedures when dealing with publication of personal images and copyrighted material.

Teaching for Deep Understanding

For deep understanding, it is vital that students learn by constructing knowledge, with some understandings provided directly by the teacher. As an example, basic understanding of the effects of changing the aperture is something that the teacher can demonstrate and name for the students; however, first the students could explore ideas for working with light outside of photography in their past experience. Demonstrations by the teacher in the Photography class often form a significant portion of the instruction, but the students must have adequate practice time to construct their own understandings to demonstrate the required skill adequately.

Teachers can analyze the outcome in each module to identify what students need to know, understand, and be able to do. Teachers also need to provide opportunities for students to explain, apply, and transfer understanding to new situations. This reflection supports professional decision making and planning effective strategies to promote students' deeper understanding of ideas.

Photography skills and understandings are constructed when students engage in deliberate activities utilizing the key concepts of the subject area. When students participate in classes where they are told what to do, how to do it, and when to do it, they cannot make the strong connections necessary for learning to be meaningful, easily accessible, and transferable. The learning environment must be respectful of individuals and groups, fostering discussion and self-reflection, the

asking of questions, the seeking of multiple answers, the opportunity for application, and the construction of meaning.

Inquiry

Inquiry learning provides students with opportunities to build knowledge, abilities, and inquiring habits of mind that lead to deeper understanding of their world and human experience. The inquiry process focuses on the development of compelling questions, formulated by teachers and students, to motivate and guide inquiries into topics, problems, and issues related to curriculum content and outcomes.

Inquiry is more than a simple instructional method. It is a philosophical approach to teaching and learning, grounded in constructivist research and methods, which engages students in investigations that lead to understanding and skills within the discipline as well as knowledge that is applicable across disciplines. For example, understanding the concept of reflection in Photography will support understanding of the properties of light in Physics.

Inquiry builds on students' inherent sense of curiosity and wonder, drawing on their diverse backgrounds, interests, and experiences. The process provides opportunities for students to become active participants in a collaborative search for meaning and understanding. Students who are engaged in inquiry:

- construct deep knowledge and deep understanding rather than passively receiving it
- are involved and engaged directly in the discovery of new knowledge
- encounter alternative perspectives and conflicting ideas that transform prior knowledge and experience into deep understanding
- transfer new knowledge and skills to new circumstances (e.g., the workplace)
- take ownership and responsibility for their ongoing learning of curriculum content and skills.

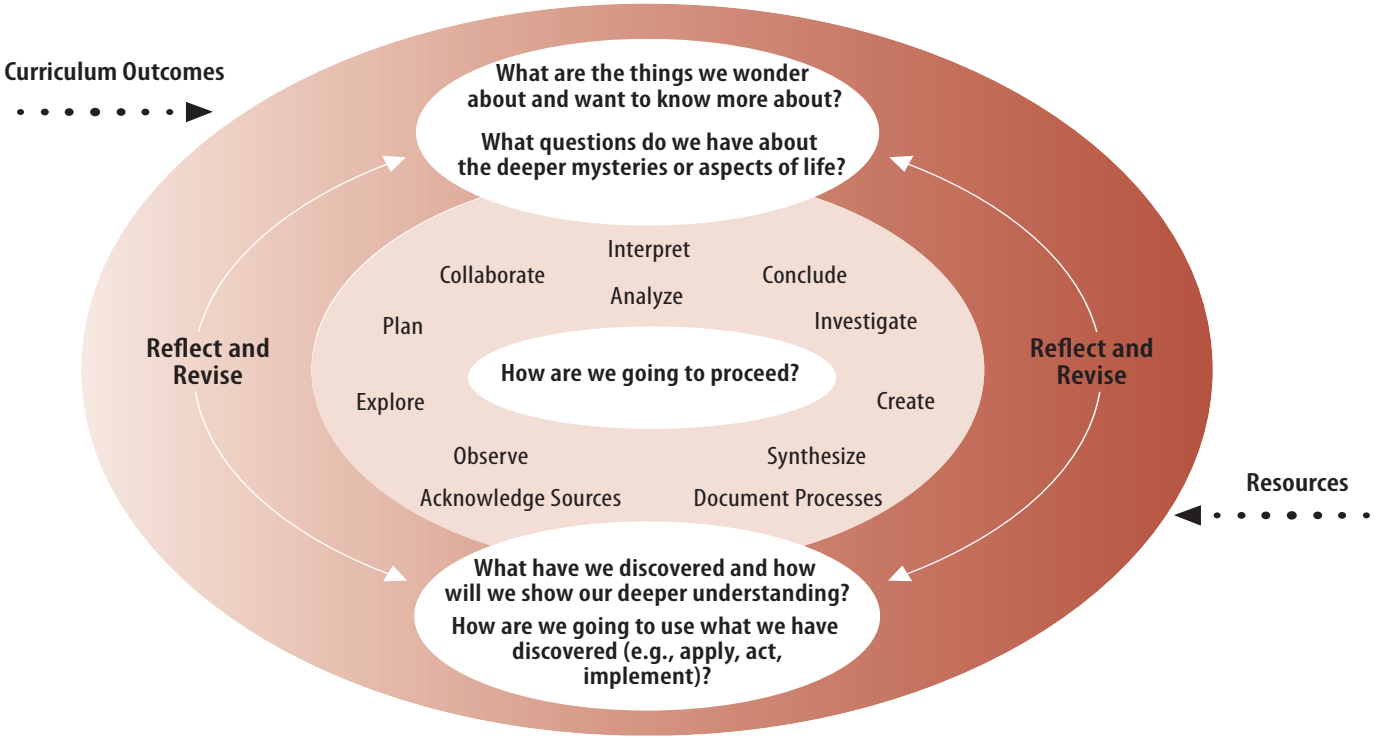
(Adapted from Kuhlthau & Todd, 2008, p. 1)

Inquiry learning is not a step-by-step process but rather a cyclical process with parts of the process being revisited and rethought as a result of students' discoveries, insights, and construction of new knowledge. The following graphic shows the cyclical inquiry process.

Inquiry is a philosophical stance rather than a set of strategies, activities, or a particular teaching method. As such, inquiry promotes intentional and thoughtful learning for teachers and children.

(Mills & Donnelly, 2001, p. xviii)

Constructing Understanding Through Inquiry



Inquiry prompts and motivates students to investigate topics within meaningful contexts. The inquiry process is not linear nor lock-step, but flexible and recursive. Experienced inquirers move back and forth through the cyclical process as new questions arise and as students become more comfortable with the process.

Well-formulated inquiry questions are broad in scope and rich in possibilities. They encourage students to explore, gather information, plan, analyze, interpret, synthesize, problem solve, take risks, create, develop conclusions, document, reflect on learning, and develop new questions for further inquiry.

In Practical and Applied Arts, inquiry encompasses creating solutions to challenges through the practical application of understandings and skills. This includes processes to get from what is known to discover what is unknown. When teachers show students how to solve a challenge and then assign additional similar challenges, the students are not constructing new knowledge through application, but merely practising. Both are necessary elements of skill building in Practical and Applied Arts, but one should not be confused with the other. If the path for getting to the end situation already has been determined, it is no longer problem solving. Students must understand this difference as well.

Creating Questions for Inquiry in Practical and Applied Arts

Teachers and students can begin their inquiry at one or more entry points; however, the process may evolve into learning opportunities across disciplines, reflective of the holistic nature of our lives. Developing questions evoked by students' interests is essential, with the potential for rich and deep learning. Compelling questions initiate and guide the inquiry, and give students direction for discovering deep understandings about a topic or issue under study.

The process of constructing inquiry questions can help students grasp the important disciplinary ideas situated at the core of a particular curricular focus or context. These broad questions will lead to more specific questions that can provide a framework, purpose, and direction for the learning activities in a lesson or project, and help students connect what they are learning to their life and experiences beyond school.

Effective questions in Practical and Applied Arts are the key to initiating and guiding students' investigations, critical thinking, problem solving, and reflection on their own learning. Such questions include:

- What is the best solution to creating a strong welding joint in this circumstance and for this purpose?
- Which elements of design will produce the desired effect in clothing creation?
- Which visual effects will be most effective in engaging an audience on a website?
- What community needs can be met by applying these skills in horticulture?

The above are just a few examples of questions to move students' inquiry towards deeper understanding. Effective questioning is essential for teaching and student learning, and should be an integral part of planning. Questioning also should be used to encourage students to reflect on the inquiry process as well as the documentation and assessment of their own learning.

Effective questions:

- *cause genuine and relevant inquiry into the important ideas and core content*
- *provide for thoughtful, lively discussion, sustained inquiry, and new understanding as well as more questions*
- *require students to consider alternatives, weigh evidence, support their ideas, and justify their answers*
- *stimulate vital, ongoing rethinking of key ideas, assumptions, and prior lessons*
- *spark meaningful connections with prior learning and personal experiences*
- *naturally recur, creating opportunities for transfer to other situations and subjects.*

(Wiggins & McTighe, 2005, p. 110)

Questions should invite students to explore concepts within a variety of contexts and for a variety of purposes. When questioning students, teachers should choose questions that:

- encourage students to make use of the knowledge and skills of the discipline
- are open-ended, whether in answer or approach, and many have multiple answers or multiple approaches
- empower students to explore their curiosity and unravel their misconceptions
- not only require the application of skills but also encourage students to make connections and are applicable to new situations
- lead students to wonder about a topic and to construct new questions as they investigate this newly found interest.

(Adapted from Schuster & Canavan Anderson, 2005, p. 3)

Reflection and Documentation of Inquiry

Two important parts of any inquiry process are student reflection on their learning and the documentation needed to assess the learning and make it visible. Student documentation of the inquiry process in photography may take the form of reflective journals, notes, drafts, models, projects, photographs, or video footage. This documentation should illustrate the students' strategies and thinking processes that led to new insights and conclusions. Inquiry-based documentation can be a source of rich assessment materials through which teachers can gain an in-depth look into their students' understandings. These types of documentation can be utilized in any Practical and Applied Arts course.

Students must engage in the communication and representation of their progress in building skills and understandings. A wide variety of forms of communication and representation should be encouraged and, most importantly, have links made between them. In this way, student inquiry can develop and strengthen understanding through self-reflection.

Module Overview Chart

Module Code	Modules	Suggested Time (hours)
PHGY01	Module 1: Introduction to Photography (Core)	3-5
PHGY02A	Module 2A: Camera Controls and Functions (Core)	5-8
PHGY02B	Module 2B: Camera Controls and Functions (Core)	5-8
PHGY03A	Module 3A: Basic Photographic Skills (Core)	15-20
PHGY03B	Module 3B: Basic Photographic Skills (Core)	15-20
PHGY03C	Module 3C: Basic Photographic Skills (Core)	15-20
PHGY04	Module 4: Safety and Sustainability (Core)	2-3
PHGY05	Module 5: Composition (Core)	8-10
PHGY06A	Module 6A: Focal Length and Camera Lenses (Core)	6-8
PHGY06B	Module 6B: Focal Length and Camera Lenses (Core)	3-5
PHGY07	Module 7: Understanding Light (Core)	7-8
PHGY08	Module 8: Career and Occupational Opportunities (Core)	3-5
PHGY09	Module 9: Electronic Flash (Optional)	5-7
PHGY10	Module 10: Colour Balance/White Balance (Core)	3-5
PHGY11A	Module 11A: Image Adjustment (Core)	8-10
PHGY11B	Module 11B: Image Adjustment (Core)	8-10
PHGY11C	Module 11C: Image Adjustment (Core)	8-10
PHGY12A	Module 12A: Legal and Ethical Issues (Core)	2-3
PHGY12B	Module 12B: Legal and Ethical Issues (Core)	2-3
PHGY12C	Module 12C: Legal and Ethical Issues (Core)	2-3
PHGY13A	Module 13A: Image Manipulation (Core)	10-15
PHGY13B	Module 13B: Image Manipulation (Core)	10-15
PHGY13C	Module 13C: Image Manipulation (Core)	10-15
PHGY14	Module 14: Critiquing Images (Optional)	3-5
PHGY15A	Module 15A: Presentations/Sharing of Images (Optional)	10-20
PHGY15B	Module 15B: Presentations/Sharing of Images (Optional)	10-20
PHGY16	Module 16: Photojournalism (Optional)	6-8
PHGY17	Module 17: Advertising and Product Photography (Optional)	8-10
PHGY18	Module 18: Portraiture (Optional)	8-10
PHGY19	Module 19: Entrepreneurship (Optional)	3-5
PHGY20	Module 20: History of Photography (Optional)	3-5
PHGY21A	Module 21A: Work Study Preparation (Optional)	3-5
PHGY21B	Module 21B: Work Study Preparation (Optional)	3-5
PHGY22A	Module 22A: Work Study Placement (Optional)	25-50

Module Code	Modules	Suggested Time (hours)
PHGY22B	Module 22B: Work Study Placement (Optional)	25-50
PHGY23A	Module 23A: Work Study Follow-up (Optional)	2-4
PHGY23B	Module 23B: Work Study Follow-up (Optional)	2-4
PHGY99A	Module 99A: Extended Study (Optional)	5-25
PHGY99B	Module 99B: Extended Study (Optional)	5-25
PHGY99C	Module 99C: Extended Study (Optional)	5-25

Note: When recording modules from this curriculum in the Module Recordkeeping section of the Student Data System (SDS), please be sure to use the modules with the prefix PHGY. Modules for the previous curriculum continue to be in the SDS with the prefix PHGA in order to maintain the integrity of the data for students who completed modules from that curriculum.

Suggested Course Configurations

Module Code	Modules	Suggested Time (hours)
	Photography 10	
PHGY01	Module 1: Introduction to Photography (Core)	3-5
PHGY02A	Module 2A: Camera Controls and Functions (Core)	5-8
PHGY03A	Module 3A: Basic Photographic Skills (Core)	15-20
PHGY04	Module 4: Safety and Sustainability (Core)	2-3
PHGY05	Module 5: Composition (Core)	8-10
PHGY06A	Module 6A: Focal Length and Camera Lenses (Core)	6-8
PHGY07	Module 7: Understanding Light (Core)	7-8
PHGY08	Module 8: Career and Occupational Opportunities (Core)	3-5
PHGY09	Module 9: Electronic Flash (Optional)	5-7
PHGY10	Module 10: Colour Balance/White Balance (Core)	3-5
PHGY11A	Module 11A: Image Adjustment (Core)	8-10
PHGY12A	Module 12A: Legal and Ethical Issues (Core)	2-3
PHGY13A	Module 13A: Image Manipulation (Core)	10-15
PHGY20	Module 20: History of Photography (Optional)	3-5
PHGY99A	Module 99A: Extended Study (Optional)	5-25
	Minimum	**100**

Module Code	Modules	Suggested Time (hours)
	Photography 20	
PHGY02B	Module 2B: Camera Controls and Functions (Core)	5-8
PHGY03B	Module 3B: Basic Photographic Skills (Core)	15-20
PHGY06B	Module 6B: Focal Length and Camera Lenses (Core)	3-5
PHGY11B	Module 11B: Image Adjustment (Core)	8-10
PHGY12B	Module 12B: Legal and Ethical Issues (Core)	2-3
PHGY13B	Module 13B: Image Manipulation (Core)	10-15
PHGY14	Module 14: Critiquing Images (Optional)	3-5
PHGY15A	Module 15A: Presentations/Sharing of Images (Optional)	10-20
PHGY16	Module 16: Photojournalism (Optional)	6-8
PHGY17	Module 17: Advertising and Product Photography (Optional)	8-10
PHGY21A	Module 21A: Work Study Preparation (Optional)	3-5
PHGY22A	Module 22A: Work Study Placement (Optional)	25-50
PHGY23A	Module 23A: Work Study Follow-up	2-4
PHGY99B	Module 99B: Extended Study (Optional)	5-25
	Minimum	**100**

Module Code	Modules	Suggested Time (hours)
	Photography 30	
PHGY03C	Module 3C: Basic Photographic Skills (Core)	15-20
PHGY11C	Module 11C: Image Adjustment (Core)	8-10
PHGY12C	Module 12C: Legal and Ethical Issues (Core)	2-3
PHGY13C	Module 13C: Image Manipulation (Core)	10-15
PHGY15B	Module 15B: Presentations/Sharing of Images (Optional)	10-20
PHGY18	Module 18: Portraiture (Optional)	8-10
PHGY19	Module 19: Entrepreneurship (Optional)	3-5
PHGY21B	Module 21B: Work Study Preparation (Optional)	3-5
PHGY22B	Module 22B: Work Study Placement (Optional)	25-50
PHGY23B	Module 23B: Work Study Follow-up (Optional)	2-4
PHGY99C	Module 99C: Extended Study (Optional)	5-25
	Minimum	**100**

Modules: Outcomes and Indicators

Module 1: Introduction to Photography (Core)

Suggested Time: 3-5 hours | **Level: Introductory** | **Prerequisite: None**

Outcome	Indicators
Recognize and document the potential of photography as a communication medium through the exploration of a variety of images.	a. Describe and compare the aspects of a variety of purposes for photography (e.g., news report, wedding, advertising, hobby, art). b. Compare a snapshot to a photograph with an impact that has endured through time (e.g., World Trade Centre, the Hindenburg Disaster, Terry Fox). c. Discuss and categorize different styles of photography (e.g., journalism, portraiture, landscape) given a series of photographs.

Module 2A: Camera Controls and Functions (Core)

Suggested Time: 5-8 hours | **Level: Introductory** | **Prerequisite: None**

Outcome	Indicators
Identify and demonstrate the controls and functions of a camera.	a. Demonstrate and explain the proper procedures to: • hold a camera securely to reduce camera shake • turn the camera on and off • manipulate the modes and/or settings on the camera • preview the image that the camera will take using the viewfinder or display • focus the lens • take, review, and delete images • turn flash on and off (if available) • connect accessories such as tripod, flash, and cables. b. Identify similarities and differences between controls of various cameras including examples of film and digital devices.

Note: Individual cameras have a variety of different features or different terms for features. Students should become proficient with the capabilities of the available equipment.

Module 2B: Camera Controls and Functions (Core)

Suggested Time: 5-8 hours | **Level: Intermediate** | **Prerequisite: 2A**

Outcome	Indicators
Capture images that demonstrate advanced camera functions and controls.	a. Select and display tools that can be manipulated (e.g., white balance, histogram, exposure compensation, automatic bracketing). b. Select and adjust a variety of camera functions when shooting pictures including: • metering modes • focus modes and points • frame rates • flash settings (e.g., rear and front curtain sync, manual vs. ttl).

Note: Individual cameras have a variety of different features or different terms for features. Students should become proficient with the capabilities of the available equipment.

Module 3A: Basic Photographic Skills (Core)

Suggested Time: 15-20 hours | **Level: Introductory** | **Prerequisite: 2A**

Outcome	Indicators
Assess and demonstrate the effects of utilizing the photographic triangle (i.e., shutter speed, aperture, and ISO) when capturing an image.	a. Identify the relationships of exposure values on a camera to the amount of light for the exposure. b. Create images to demonstrate the effects of different shutter speeds, aperture settings, and ISO settings. c. Create a wide variety of images by combining techniques and principles of shutter speed, aperture, and ISO.

Module 3B: Basic Photographic Skills (Core)

Suggested Time: 15-20 hours | **Level: Intermediate** | **Prerequisite: 3A**

Outcome	Indicators
Utilize and extend skills from Module 3A to capture images of increasing quality and refinement.	a. Create a variety of images demonstrating planning, including awareness of aspects such as focus, light manipulation, framing, and the photographic triangle. b. Create a log of camera settings, personal reflections, and knowledge regarding increasing skill level. c. Load and unload the storage media from the camera.

Module 3C: Basic Photographic Skills (Core)

Suggested Time: 15-20 hours | **Level: Advanced** | **Prerequisite: Module 3B**

Outcome	Indicators
Demonstrate proficiency of image capture through manipulation of camera settings.	a. Consistently create quality images through control of the exposure triangle. b. Consistently create quality images that are in focus, demonstrate basic composition rules, and have a clear focal point. c. Create a log of camera settings which includes a personal assessment of each image based on the above criteria.

Module 4: Safety and Sustainability (Core)

Suggested Time: 2-3 hours | **Level: Introductory** | **Prerequisite: None**

Outcome	Indicators
Describe safe and sustainable practices connected to the field of photography.	a. List safety issues and produce a plan for personal safety when taking photographs. b. Create a list of safety practices to protect both equipment and self when using photographic equipment such as cameras, flash, external lighting. c. Identify environmentally sustainable ways to use and dispose of equipment and accessories such as batteries and chemicals.

Module 5: Composition (Core)

Suggested Time: 8-10 hours | **Level: Introductory** | **Prerequisite: Module 3A**

Outcome	Indicators
Create images through demonstration of visualization and composition.	a. Research and define elements of photographic critique. b. Critique various photos on their compositional merit. c. Visualize and describe or illustrate techniques to compose a photograph. d. Create images demonstrating aspects of composition such as rule of thirds, negative space, lines, contrast, and colour. e. Recognize when normal rules of compostion can be broken.

Module 6A: Focal Length and Camera Lenses (Core)

Suggested Time: 6-8 hours | **Level: Introductory** | **Prerequisite: Module 2A**

Outcome	Indicators
Analyze the effect of focal length on the image.	a. Show the effects on a series of images produced by changing the focal length (i.e., zoom). b. Create a series of images to demonstrate how perspective is changed by altering the camera position relative to the subject. c. Produce a series of images to show the apparent change in depth of field resulting from a change in focal length.

Module 6B: Focal Length and Camera Lenses (Core)

Suggested Time: 3-5 hours | **Level: Intermediate** | **Prerequisite: Module 6A**

Outcome	Indicators
Demonstrate an understanding of selecting various lenses and focal lengths to create a variety of effects on the image.	a. Illustrate how different lenses affect an image (e.g., fast versus slow, zoom versus prime). b. Demonstrate the change in image as a result of using a variety of lenses (e.g., fisheye, wide angle, telephoto). c. Understand and illustrate, through providing examples, the concept of how a resulting image is affected by focal length and/or format size.

Module 7: Understanding Light (Core)

Suggested Time: 7-8 hours | **Level: Introductory** | **Prerequisite: Module 3A**

Outcome	Indicators
Create a series of images showing the effect of the quality, quantity, and direction of light.	a. Explore and demonstrate the effect of changing: • the direction of light on a subject • the quality of light on a subject including diffuse light, natural light, colour, temperature, and types of light sources • the quantity of light on a subject. b. Manipulate light to change the resulting image through the use of tools such as reflectors, diffusers, coloured gels, and additional light sources.

Module 8: Career and Occupational Opportunities (Core)

Suggested Time: 3-5 hours | **Level: Introductory** | **Prerequisite: None**

Outcome	Indicators
Explore and evaluate the career training and occupational opportunities in the field of photography in Saskatchewan, Canada, and globally, including post-secondary education programs.	a. Identify specific examples of occupational skills required in photography occupations. b. Investigate programs offered by universities and technical institutes in photography. c. Investigate the career opportunities for professional photographers. d. Identify local opportunities for being paid as a freelance photographer.

Module 9: Electronic Flash (Optional)

Suggested Time: 5-7 hours | **Level: Introductory** | **Prerequisite: Module 7**

Outcome	Indicators
Create images demonstrating the use of an electronic flash.	a. Compare images that demonstrate the effects of using an electronic flash. b. Demonstrate the effects of changing the flash technique (e.g., bounce, using diffusers, or using coloured gels on the flash). c. Show the effects of manipulating flash through power settings (e.g., full power, half power). d. Demonstrate the use of mixed lighting and fill-in flash.

Module 10: Colour Balance/White Balance (Core)

Suggested Time: 3-5 hours | **Level: Introductory** | **Prerequisite: Module 7**

Outcome	Indicators
Optimize colour values when capturing an image.	a. Investigate how changes in white balance can be manipulated to produce different effects. b. Adjust the colour balance on a camera to achieve different visual impacts in different lighting situations to represent what you see. c. Demonstrate how to set a custom white balance for specific locations, light sources, and conditions.

Module 11A: Image Adjustment (Core)

Suggested Time: 8-10 hours | **Level: Introductory** | **Prerequisite: Module 5**

Outcome	Indicators
Develop a workflow to improve digital images using software.	a. Crop images to create a better composition. b. Resize images for various outputs. c. Demonstrate and explain why and how files are saved in different formats. d. Demonstrate and explain how and why files are saved with different resolutions. e. Adjust brightness, colour, and contrast to enhance a photograph.

Module 11B: Image Adjustment (Core)

Suggested Time: 8-10 hours | **Level: Intermediate** | **Prerequisite: Module 11A**

Outcome	Indicators
Continue to develop proficiency with software to improve digital images.	a. Use curves to adjust brightness, contrast, and colour saturation and tone. b. Apply various types of filters when adjusting an image (e.g., sharpening, texturizing, blur, black and white). c. Use software tools to retouch an image.

Module 11C: Image Adjustment (Core)

Suggested Time: 8-10 hours | **Level: Advanced** | **Prerequisite: Module 11B**

Outcome	Indicators
Demonstrate increasing expertise using software to improve digital images.	a. Manipulate original images to enhance their appearance. b. Apply advanced editing effects to create images such as: • selection tools • masking • brushes • vignetting • dodging and burning • temperature adjustment.

Module 12A: Legal and Ethical Issues (Core)

Suggested Time: 2-3 hours | **Level: Introductory** | **Prerequisite: None**

Outcome	Indicators
Investigate and articulate legal issues related to photography such as copyright and consent.	a. Explain the term "copyright" as used in the Canadian legal system and assess its impact on a photography class. b. Investigate the three factors that place some works in the public domain and cite some examples of these works along with reasons for their inclusion. c. Investigate and report on current issues and resources connected to copyright law such as "open source", "creative commons", and stock resources. d. Investigate and report on the need for consent in various circumstances such as location, appearance, and material.

Module 12B: Legal and Ethical Issues (Core)

Suggested Time: 2-3 hours | **Level: Intermediate** | **Prerequisite: Module 12A**

Outcome	Indicators
Discuss and reflect on the need for societal standards (e.g., legal, ethical, and community norms, and values) and cultural sensitivity in photography.	a. Formulate a list of societal standards in relation to issues such as sexism, racism, and homophobia, and support the list with positive media examples. b. Compose a strategy for inclusion of appropriate content and images reflective of societal standards in personal, class, and school projects and assignments. c. Identify and discuss issues regarding posting of images on the web including safety, possible consequences, and permanence of web postings.

Module 12C: Legal and Ethical Issues (Core)

Suggested Time: 2-3 hours | **Level: Advanced** | **Prerequisite: Module 12B**

Outcome	Indicators
Identify through research the positive and negative aspects of creative, artistic, and intellectual works receiving ownership protection.	a. Utilize the Canadian Intellectual Property Office to distinguish between copyright, a patent, and an industrial design, and identify some common examples pertaining to photography. b. Collect and categorize a number of articles from various sources regarding intellectual property that reflect opposing points of view.

Module 12C continued

c. Explain and support a personal stance on intellectual property.

d. Investigate the ownership rights of personal work and how to protect and sell usage rights of personal work using techniques such as watermarking.

Module 13A: Image Manipulation (Core)

Suggested Time: 10-15 hours | **Level: Introductory** | **Prerequisite: Module 11A**

Outcome	Indicators
Develop skills using basic image editing software to manipulate photographs.	a. Demonstrate a variety of manipulation techniques such as compositing, distorting, and perspective control. b. Compare original and manipulated images to examine the different messages of each. c. Recognize and discuss some of the ethical implications in image manipulations.

Note: Adjustment and manipulation are different in that adjustment refines the original qualities of the picture but does not alter the content, while manipulation freely alters the content of the image.

Module 13B: Image Manipulation (Core)

Suggested Time: 10-15 hours | **Level: Intermediate** | **Prerequisite: Module 13A**

Outcome	Indicators
Continue to develop skills using basic image editing software to manipulate photographs for a defined purpose.	a. Demonstrate techniques such as retouching, skin correction, contrast, layering, panoramas, stitching, and masking as examples of manipulation. b. Provide personal and ethical justification for choosing manipulation procedures to enhance an image.

Module 13C: Image Manipulation (Core)

Suggested Time: 10-15 hours | **Level: Advanced** | **Prerequisite: Module 13B**

Outcome	Indicators
Demonstrate increasing expertise using software to perform advanced manipulation of digital images.	a. Apply software/editing effects to create personally satisfying images. b. Manipulate an image to alter the appearance (e.g., colour, apparent age, masking). c. Restore old or damaged photographs. d. Apply tone-mapping using multiple images.

Module 13C continued

e. Explore high dynamic range (HDR) photography.

Module 14: Critiquing Images (Optional)

Suggested Time: 3-5 hours | **Level: Intermediate** | **Prerequisite: Module 5**

Outcome

Develop abilities to critique photographic work as a means of evaluation and self-reflection of personal, peer, and public work.

Indicators

a. Research and discuss various aspects of critiquing work (aesthetic and technical merits).

b. Create a critique of acquired images produced by self and peers.

c. Express an opinion based on knowledge of composition, genre, design, style, message, presentation, and target audience.

Module 15A: Presentations/Sharing of Images (Optional)

Suggested Time: 10-20 hours | **Level: Intermediate** | **Prerequisite: Module 14**

Outcome

Explore and demonstrate a variety of presentation formats that photographers use to display work.

Indicators

a. Maintain a personal portfolio reflecting growth in understanding and skills involved in image creation.

b. Compile personal images for display.

c. Select a style and venue for a school or public showing.

d. Practise aspects of presentations such as matting, mounting, and framing.

Module 15B: Presentations/Sharing of Images (Optional)

Suggested Time: 10-20 hours | **Level: Advanced** | **Prerequisite: Module 15A**

Outcome

Create and display a digital or print gallery of completed images along with photographer's notes and descriptions of the process involved.

Indicators

a. Create a plan for an exhibition including time, space, intended audience, and purpose.

b. Create a personally satisfying photography presentation through the use of matting, mounting, and/or framing.

c. Engage classmates and/or the public in a display of personally created photographs.

d. Create an assessment of the exhibition through personal reflection and feedback from others.

Module 16: Photojournalism (Optional)

Suggested Time: 6-8 hours | **Level: Intermediate** | **Prerequisite: Module 8**

Outcome	Indicators
Demonstrate skills and processes used by photojournalists.	a. Investigate and report on what a photojournalist does. b. Choose a theme and document an event through the use of images and captions in the style of a photojournalist.

Module 17: Advertising and Product Photography (Optional)

Suggested Time: 8-10 hours | **Level: Intermediate** | **Prerequisite: Module 8**

Outcome	Indicators
Develop skills and processes used in commercial photography to promote a product or service.	a. Critique an existing advertisement on the effectiveness of the photography. b. Create a series of images of various products. c. Create a fictional draft advertisement using an existing campaign or a personal example.

Module18: Portraiture (Optional)

Suggested Time: 8-10 hours | **Level: Advanced** | **Prerequisite: Module 7**

Outcome	Indicators
Develop and demonstrate techniques employed by portrait photographers.	a. Investigate the effects of lighting on subjects (e.g., supplementary lighting, reflectors). b. Explore how various poses create emphasis. c. Practise group arrangements to produce an effective group portrait.

Module 19: Entrepreneurship (Optional)

Suggested Time: 3-5 hours | **Level: Advanced** | **Prerequisite: Module 8**

Outcome	Indicators
Develop required skills to operate a variety of photographic businesses.	a. Identify and interview an entrepreneur to investigate how he/she started out in business and what advice he/she can provide. b. Analyze the differences between photojournalism, social photography (e.g., weddings, parties), portrait photography, assignment photography and stock photography and create a statement about your personal business preference.

Module 19 continued	c. Investigate the costs of starting a photography business such as buying equipment, obtaining a business licence, paying taxes, pricing your product, and purchasing insurance.

Module 20: History of Photography (Optional)

Suggested Time: 3-5 hours | **Level: Introductory** | **Prerequisite: Module 1**

Outcome	Indicators
Explore and articulate the major historical developments in photography.	a. Investigate a photographic process (e.g., camera obscura, daguerreotype, tintype) and share the knowledge through a photographic presentation. b. Create a visual presentation to present the work of a single noted phototgrapher or to compare the styles of two or more photographers including how they contributed to advancements in the art or science of the field.

Module 21A and B: Work Study Preparation (Optional)

Suggested Time: 3-5 hours | **Level: Intermediate/Advanced** | **Prerequisite: Module 3 and 11**

Outcome	Indicators
Recognize how school-based skills development will be used to meet workplace expectations.	a. Obtain a list of roles and responsibilities of the workplace. b. Brainstorm factors that may affect workplace performance. c. Discuss effective and positive verbal and non-verbal communication in the workplace. d. Develop a resumé and portfolio that can be forwarded to a potential employer. e. Practise effective interview techniques based on established guidelines (e.g., the greeting, the exchange, and the parting).

Note: Work Study is used to prepare students for employment through specific skill development within a workplace. The number of work study opportunities is equal to the number of courses available in the curriculum area at the 20 and 30 level.

Note: For more information about implementing work study in schools, see the Work Study Guidelines for the Practical and Applied Arts included in the Practical and Applied Arts Handbook. The training plan for the student should be designed to relate to the outcomes of the course modules chosen in collaboration with the cooperating employer.

Module 22A and B: Work Study Placement (Optional)

Suggested Time: 25-50 hours **Level: Intermediate/Advanced** **Prerequisite: Module 21A and B**

Outcome

Gain experience in the world of work in the photography industry to make more informed career choices by expanding career research and exploration beyond the classroom.

Indicators

a. Develop an awareness of career opportunities in Saskatchewan and beyond.

b. Gain an opportunity for the development of entry-level workplace skills that may lead to sustainable employment in the photography industry.

c. Establish standards of work performance acceptable to the student and employer.

d. Identify and report on essential skills and employability skills as they relate to a work environment.

Module 23A and B: Work Study Follow-up (Optional)

Suggested Time: 2-4 hours **Level: Intermediate/Advanced** **Prerequisite: Module 22 A and B**

Outcome

Reflect and report on the work experience including but not limited to hours of work, personal relationships, employer expectations, evaluation criteria, and overall personal performance.

Indicators

a. Design and participate in an exit interview with the workplace.

b. Prepare and present a report on the work study experience including aspects such as:

- expected hours of work
- dress code
- job description
- employer expectations
- employer evaluation process
- absent and late policies
- personal relationships
- problem solving
- communication.

Module 99A, B and C: Extended Study (Optional)

Suggested Time: 5-25 hours **Level: All** **Prerequisite: Module 3 and 11**

Note: The extended study module may be used only once in each 100 hour course. In the Student Data System, record 99A for the first extended study module offered in the course series, and, if needed, 99B for the second and 99C for the third.

Module Overview:

Evolving societal and personal needs, advances in technology, and demands to solve current problems require a flexible curriculum that can accommodate new ways and means to support learning in the future. The extended study module is designed to provide schools and teachers with an opportunity to meet current and future demands not provided for in the current modules in the Photography curriculum.

This flexibility allows a school or teacher to design one new module per credit to complement or extend the study of the core and optional modules to meet the specific needs of students or the community. The extended study module is designed to extend the content of the pure courses and to offer survey course modules beyond the scope of the available selection of PAA modules.

The list of possibilities for topics of study or projects for the extended study module approach is as varied as the imagination of those involved in using the module. The optional extended study module guidelines should be used to strengthen the knowledge, skills, and processes advocated in the Photography curriculum.

For more information on the guidelines for the extended study module, see the Practical and Applied Arts Handbook.

Assessment and Evaluation of Student Learning

Assessment and evaluation require thoughtful planning and implementation to support the learning process and to inform teaching. All assessment and evaluation of student achievement is based on the outcomes in the Photography curriculum.

Assessment involves the systematic collection of information about student learning with respect to:

- achievement of provincial curriculum outcomes
- effectiveness of teaching strategies employed
- student self-reflection on learning.

Evaluation compares assessment information against criteria based on curriculum outcomes for the purpose of communicating to students, teachers, parents/caregivers, and others about student progress and to make informed decisions about the teaching and learning process.

Reporting of student achievement must be in relation to curriculum outcomes. Assessment information unrelated to outcomes (e.g., attendance, behaviour, general attitude, completion of homework, effort) can be gathered and reported to complement the reported achievement related to the outcomes of Photography.

We assess students for three interrelated purposes of assessment. Each type of assessment, systematically implemented, contributes to an overall picture of an individual student's achievement.

Assessment for learning involves the use of information about student progress to support and improve student learning and inform instructional practices, and:

- is teacher-driven for student, teacher, and parent use
- occurs throughout the teaching and learning process, using a variety of tools
- engages teachers in providing differentiated instruction, feedback to students to enhance learning, and information to parents in support of learning.

Assessment as learning involves student reflection on and monitoring of her/his progress related to curricular outcomes and:

- is student-driven with teacher guidance for personal use
- occurs throughout the learning process
- engages students in reflecting on learning, future learning, and thought processes (metacognition).

What are examples of assessments as learning that could be used in Photography, and what would be the purpose of those assessments?

Assessment of learning involves teachers' use of evidence of student learning to make judgements about student achievement and:

- provides the opportunity to report evidence of achievement related to curricular outcomes
- occurs at the end of a learning cycle, using a variety of tools
- provides the foundation for discussion on placement or promotion.

In Photography, students need to be engaged regularly in assessment as learning. The various types of assessments should flow from the learning tasks and provide direct feedback to the students regarding their progress in attaining the desired learnings as well as opportunities for the students to set and assess personal learning goals related to the content of Photography.

Glossary

Aperture: An opening, usually variable in size, located in or near a lens, which is used to control the amount of light that reaches the photosensitive material.

Aperture priority: An automatic exposure allowing the photographer to set the desired lens opening, after which the camera automatically adjusts the shutter speed for a correct exposure.

Blur: The softening of the detail in an image or parts of an image.

Bounce light: Diffused illumination achieved by reflecting light from a flash or lamp off of a white surface such as a wall or card.

Bracketing: Making several exposures of the same subject, intentionally overexposing and underexposing from an initially determined or estimated exposure thought to be correct; can be done by changing either the f/stop or the exposure time (shutter speed).

Burning-in: A technique used to darken certain areas of the image.

Cable release: A flexible cable that usually screws into the shutter release, allowing the photographer to rip the shutter without pressing the release with a finger; used for time exposures to prevent camera movement.

CCD: An abbreviation for Charge-coupled Device, a common type of image sensor in a digital camera or scanner that can convert light into an electronic signal.

Colour balance: The colour temperature of illumination for which a colour film will give a correct colour rendition. Often used to refer to the colour temperature of illumination, as in daylight balance illumination.

Colour temperature: A scale of numbers used for measuring the colour of light, which varies according to its temperature; expressed in units of measurement called kelvin, abbreviated K. Colour temperatures are derived from comparison with the colour of the illumination emitted from an ideal black-body radiator at different temperatures.

Composition: The arrangement of the subject or elements in a picture; carefully considered composition is the key to an effective photograph.

Contrast: The range of brightness of a subject; also, the range of density in a negative, print , or slide. In general, a difference between extremes.

Copyright: The exclusive right to reproduce, publish, and sell the matter and form of a literary or artistic work including photographs.

Cropping: Eliminating unwanted parts of a picture. A photographer crops with the viewfinder by framing only the desired subject. Cropping also can be during the manipulation process to print only the desired portion of the negative or image.

Daguerreotype: A photographic process that uses silver-plated copper plates fumed with iodine. After exposure, the plate is fumed with mercury as a kind of development. Invented by Louis Jacques Daguerre and announced to the public in 1839, it was the first practical photographic process.

Depth of field: The area in a photograph that is in sharp focus; figured as the distance between the nearest and farthest object in focus; varies depending on the lens focal length, point of focus, and f/stop.

Diffused lighting: Non-directional lighting that gives uniform illumination with lower contrast and less shadowing than directional lighting; also called soft lighting.

Distortion: Used to describe an unnatural or imperfect image; often related to the use of lenses.

Dodging: A technique used to lighten certain areas of the image.

Employability Skills: The critical skills needed in the workplace - whether self-employed or working for others. The Employability Skills 2000+ are developed by the Conference Board of Canada.

Essential Skills: Skills needed for work, learning, and life which provide the foundation for learning all other skills, enabling people to evolve with their jobs and adapt to workplace change. The Essential Skills are developed by Human Resources and Skills Development Canada.

Exposure: The amount of light acting on the photosensitive material; with cameras, exposure is controlled by the lens opening and shutter speed. Exposure is equal to the product of the illuminance on the material and the amount of time that the material is exposed to light.

Fill light: Light from any source used to augment the main illumination in order to brighten dark areas in a picture, such as shadows.

Fish-eye lens: An extreme wide-angle lens that often has a bulging front lens element resembling a fish's eye and produces an angle of view close to 180 degrees; a fish-eye lens designated as full-frame rather than circular is designed to produce a rectangular image.

Flash: Illumination provided by electronic flash units which are discontinuous light sources in which illumination is generated by a brief, high-voltage electric discharge through a gas-filled transparent or translucent tube.

Focal length: The distance between the lens and the plane of focus when the lens is focused at infinity.

Focus modes: The control on a camera that sets it to autofocus or manual focus.

Framing: A composition technique to position the camera so that the foreground objects in the picture form a natural frame at the top of, on the side of, or around the main subject; also refers to composing a picture within the viewfinder.

Front curtain sync: The flash fires an instant after the front curtain of a focal plane shutter has completed its travel across the film plane. This is the way the camera operates with the flash sync mode at Normal Sync (see "Rear curtain sync").

High dynamic range (HDR): A set of techniques that allow a greater dynamic range of luminance between the lightest and darkest areas of an image than current standard digital imaging techniques or photographic methods.

Histogram: A graphical representation of the occurrence of tones or colours in a digital image.

ISO: A system of numbers determined by the International Organization for Standardization that indicates the relative speeds of films; also adopted for use with digital cameras to indicate a change in the image sensor's effective sensitivity.

Landscape orientation: In a rectangular orientation, the long dimension is horizontal.

Layer: A mechanism for overlaying and combining multiple images. Layers are like transparent sheets of acetate (clear plastic) that you can stack and rearrange. In addition to ordinary image layers, there are special kinds of layers.

Lens: Optical pieces of glass designed to focus rays of light so as to produce an image; adjustable lenses feature focusing and f/stop controls.

Manual adjustment: A setting on a camera under the total control of the photographer, who selects both the lens opening (f/stop) and shutter speed; also an exposure mode setting (M) on some SLR cameras with multimode exposure.

Masking: Using an opaque material cut in the proper shape to block light from part of the image during printing.

Matting: A method for simulating transparency in images displayed on web pages. When transparency is not supported, you can specify a matte color that matches the background to simulate transparency.

Medium: A name for substances on which data is recorded, such as magnetic disks and tape.

Natural light: Existing light, usually sunlight (but also moonlight and firelight), that is not supplemented with artificial light; sometimes called ambient light, available light, or existing light.

Negative space: In a figure-ground relationship, a ground that is relatively featureless, with fairly uniform tonal qualities.

Opacity: The extent to which something blocks light. You can change the opacity of layers, filters, and effects so that more (or less) of the underlying image shows through.

Panorama: A broad view of a subject, usually a landscape, made by overlapping individual shots as they are taken and then merging them to form one image.

Perspective: The appearance of objects relative to their distance and position; a necessary consideration to suggest depth in photographs; a dimension that the human eyes see but the camera lens does not.

Photographic triangle: The relationship between shutter speed, aperture, and ISO to determine the exposure of an image.

Point and shoot camera: An automatic compact camera; sometimes refers to some simple cameras.

Public domain: Created material, such a photographs, on which the copyright has lapsed, making them available for anyone's use without compensation to the creator.

Rear curtain sync: A feature of some autoflash units that delays the firing of the flash to portray moving subjects with a blurred image that appears to follow them; also called second curtain flash and trailing sync.

Reflector: Any device used in photography to reflect light for the purpose of redirecting it or diffusing it.

Retouching: Correction of technical flaws or alteration of a photograph for aesthetic reasons.

Rule of thirds: A rule of thumb for composition that entails dividing the frame into thirds horizontally and vertically to form four intersection points at which the subject can be effectively positioned.

Sharp: A subjective description of a photographic image that appears to render small detail and texture clearly and precisely. The opposite of soft or blurred.

Shutter priority: An automatic exposure mode that permits the shutter speed to be set to capture the subject at a high speed or to show movement of the subject at a slower speed. The camera automatically sets the aperture to give the correct exposure.

Shutter speed: Indicates the precise length of time that light exposes the film or CCD; usually in marked fractions of a second.

Stitch: To join together one or more pictures, usually to make a panorama. A "stitched" or "segmented" image involves taking two or more photographs of a scene from the same camera position, with the camera rotating on a single axis and with each image (segment) partially overlapping another so they can be joined together ("stitched") on your computer using image-processing software, resulting in a single extra-wide or extra-tall picture.

Stock resources: Generic photography that is performed on speculation at the expense of the photographer. Stock photographs are usually held by a second party who sells the rights to the photographs to a wide variety of clients.

Supplementary light: Any artificial light supplied by the photographer in addition to pre-existing light.

Telephoto lens: A lens that has a greater focal length and a narrower angle of view than a normal lens or a wide-angle lens; produces a larger subject image than a normal lens or a wide-angle lens when all lenses are the same distance from the subject.

Texturizing: The process of adding texture to an image through electronic means.

TIFF: An acronym for Tagged Image File Format, a digital image file format that is available in many digital cameras; produces a larger digital image file with higher resolution and better image quality than the more common JPEG digital image file format.

Tintype: A variation of the wet-plate process in which the collodion emulsion is coated on a black-lacquered metal sheet and exposed directly in the camera. An inexpensive and popular type of photograph in the 19th century.

Tone mapping: A technique used in image processing and computer graphics to map one set of colors to another.

Tripod: A three-legged device designed to give support and steadiness to the camera.

TTL: Abbreviation for Through-the-lens.

Vignetting: An undesirable effect when taking a picture that darkens the edges of the image; often caused by a lens shade or filter ring that extends too far in front of the camera lens; also an effect created to emphasize the subject by obliterating the background around it.

White balance: A control in digital cameras to correct the colours from different light sources so that your subjects appear in the same colours in a digital photograph as they do to your eyes; can be set to automatic or manual control to adjust for varying light.

Wide angle lens: A lens that has a shorter focal length and a greater angle of view than a normal lens or a telephoto lens; produces a smaller image than a normal lens or a telephoto lens when all lenses are the same distance from a subject.

Zoom lens: A versatile lens that can be adjusted quickly to different focal lengths in order to vary the subject image size.

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Feedback Form

The Ministry of Education welcomes your response to this curriculum and invites you to complete and return this feedback form.

Photography10, 20, 30 Curriculum

1. Please indicate your role in the learning community:

   ☐ parent ☐ teacher ☐ resource teacher

   ☐ guidance counsellor ☐ school administrator ☐ school board trustee

   ☐ teacher librarian ☐ school community council member

   ☐ other _____

   What was your purpose for looking at or using this curriculum?

2. a) Please indicate which format(s) of the curriculum you used:

   ☐ print

   ☐ online

   b) Please indicate which format(s) of the curriculum you prefer:

   ☐ print

   ☐ online

3. Please respond to each of the following statements by circling the applicable number.

The curriculum content is:	Strongly Agree	Agree	Disagree	Strongly Disagree
appropriate for its intended purpose	1	2	3	4
suitable for your use	1	2	3	4
clear and well organized	1	2	3	4
visually appealing	1	2	3	4
informative	1	2	3	4

4. Explain which aspects you found to be:

   most useful:

   least useful:

5. Additional comments:

6. Optional:

   Name: _____

   School: _____

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Thank you for taking the time to provide this valuable feedback.

Please return the completed feedback form to:

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