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# **Interactive Media Development Program Standard**

*The approved program standard for  
Interactive Media Development program  
of instruction leading to an Ontario  
College Advanced Diploma delivered by  
Ontario Colleges of Applied Arts and  
Technology (MTCU funding code 69403)*

Ministry of Training, Colleges and Universities  
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# I. Introduction

*This document is the Program Standard for the Interactive Media Development program of instruction leading to an Ontario College Advanced Diploma delivered by Ontario colleges of applied arts and technology (MTCU funding code 69403).*

## Development of System-Wide Program Standards

In 1993, the Government of Ontario initiated program standards development with the objectives of bringing a greater degree of consistency to college programming offered across the province, broadening the focus of college programs to ensure graduates have the skills to be flexible and to continue to learn and adapt, and providing public accountability for the quality and relevance of college programs.

The Program Standards and Evaluation Unit of the Ministry of Training, Colleges and Universities has responsibility for the development, review, and approval of system-wide standards for programs of instruction at Ontario colleges of applied arts and technology.

## Program Standards

Program standards apply to all similar programs of instruction offered by colleges across the province. Each program standard for a postsecondary program includes the following elements:

- **Vocational standard** (the vocationally specific learning outcomes which apply to the program of instruction in question),
- **Essential employability skills** (the essential employability skills learning outcomes which apply to all programs of instruction); and
- **General education requirement** (the requirement for general education in postsecondary programs of instruction).

Collectively, these elements outline the essential skills and knowledge that a student must reliably demonstrate in order to graduate from the program.

Individual colleges of applied arts and technology offering the program of instruction determine the specific program structure, delivery methods, and other curriculum matters to be used in assisting students to achieve the outcomes articulated in the standard. Individual colleges also determine whether additional local learning outcomes will be required to reflect specific local needs and/or interests.

## The Expression of Program Standards as Vocational Learning Outcomes

Vocational learning outcomes represent culminating demonstrations of learning and achievement. They are not simply a listing of discrete skills, nor broad statements of knowledge and comprehension. In addition, vocational learning outcomes are interrelated and cannot be viewed in isolation of one another. As such, they should be viewed as a comprehensive whole. They describe performances that demonstrate that significant integrated learning by graduates of the program has been achieved and verified.

Expressing standards as vocational learning outcomes ensures consistency in the outcomes for program graduates, while leaving to the discretion of individual colleges curriculum matters such as the specific program structure and delivery methods.

## The Presentation of the Vocational Learning Outcomes

The **vocational learning outcome** statements set out the culminating demonstration of learning and achievement that the student must reliably demonstrate before graduation.

The **elements of the performance** for each outcome define and clarify the level and quality of performance necessary to meet the requirements of the vocational learning outcome. However, it is the performance of the vocational learning outcome itself on which students are evaluated. The elements of performance are indicators of the means by which the student may proceed to satisfactory performance of the vocational learning outcome. The elements of performance do not stand alone but rather in reference to the vocational learning outcome of which they form a part.

## The Development of a Program Standard

In establishing the standards development initiative, the Government determined that all postsecondary programs of instruction should include vocational skills coupled with a broader set of essential skills. This combination is considered critical to ensuring that college graduates have the skills required to be successful both upon graduation from the college program and throughout their working and personal lives.

A program standard is developed through a broad consultation process involving a range of stakeholders with a direct interest in the program area, including employers, professional associations, universities, secondary schools, and program graduates working in the field, in addition to students, faculty, and administrators at the colleges themselves. It represents a consensus of

participating stakeholders on the essential learning that all program graduates should have achieved.

## Updating the Program Standard

The Ministry of Training, Colleges and Universities will undertake regular reviews of the vocational learning outcomes for this program to ensure that the Interactive Media Development Program Standard remains appropriate and relevant to the needs of students and employers across the Province of Ontario. To confirm that this document is the most up-to-date release, contact the [Ministry of Training, Colleges and Universities](#).

## II. Vocational Standard

*All graduates of the Interactive Media Development program of instruction have achieved the ten vocational learning outcomes listed in the following pages, in addition to achieving the essential employability skills learning outcomes and meeting the general education requirement.*

### Preamble

Graduates from the Interactive Media Development program possess the knowledge and skills to creatively design, implement and manage digital text, graphics, animation, video and audio for complex\* interactive media applications, including applications for the Internet and Mobile applications.

Graduates may work collaboratively in media project teams or individually as freelance entrepreneurs. They function creatively and professionally within a rapidly changing workplace where they follow/adhere to industry standards.

Graduates are employed in many areas including multimedia production agencies; marketing and corporate communications departments; game studios; interactive marketing firms; advertising departments; film/television production companies; non-profit, education or government organizations and software design firms. Graduates may also find employment with virtual and/or augmented reality projects, telematics, human computer interaction (HCI) projects, or algorithmic art and within the field of social media.

Graduates are increasingly creating their own freelance and small business opportunities.

*\*See Glossary*

## **Synopsis of the Vocational Learning Outcomes Interactive Media Development (Ontario College Advanced Diploma)**

*The graduate has reliably demonstrated the ability to*

- 1. complete both individual and collaborative interactive media projects effectively.**
- 2. select and use best practices and tools to design and develop dynamic, rich-media content.**
- 3. assess the requirements of a complex\* interactive media project.**
- 4. develop, budget, plan and professionally present a complex\* interactive media project.**
- 5. design a complex\* media project (interface, navigation, graphics, text treatment) using best practice design and development principles, and applying conceptual and theoretical frameworks.**
- 6. build effective and dynamic complex\* Web sites and/or mobile applications.**
- 7. identify and analyze ethical and professional issues arising in an online environment.**
- 8. apply research and conceptual skills to propose optimal solutions for mobile/multimedia/Web development problems.**
- 9. select and use creative and critical thinking techniques in the effective design, development and implementation of a complex\* interactive media project.**
- 10. evaluate the financial, technical and artistic success of a complex\* interactive media project.**

*\*See Glossary*

*Note:* The learning outcomes have been numbered as a point of reference; numbering does not imply prioritization, sequencing, nor weighting of significance.

## The Vocational Learning Outcomes

1. *The graduate has reliably demonstrated the ability to*  
**complete both individual and collaborative interactive media projects effectively.**

### Elements of the Performance

- identify strengths and challenges of performance both as an individual and as a member of a media project team
- identify and discuss areas of professional development to improve performance as an interactive media professional
- collaborate with team members, using principles of time management, to develop a schedule to complete interactive media projects on time and effectively
- use effective interpersonal communication skills with clients and team members
- select, use and encourage conflict resolution strategies appropriately.
- assist team members to identify and resolve conflict situations
- use strategies to manage stress and adapt to job pressures due to the rapidly changing nature of the interactive media work environment

2. *The graduate has reliably demonstrated the ability to*

**select and use best practices and tools to design and develop dynamic, rich-media content.**

### **Elements of the Performance**

- perform basic computer skills, including word processing, using spreadsheets, and digital presentation competently within the interactive media context
- manage digital files, including organization, storage, compression, transmission and meta-tagging
- create and maintain relational and simple non-relational databases
- select and use image editing software appropriately
- select and use appropriate software to edit and mix sound effectively
- use video editing tools and applications competently
- use authoring tools to create and/or tailor draft scripts for complex\* interactive experiences
- design and implement themes and templates for industry standard content management systems

\* See Glossary

3. *The graduate has reliably demonstrated the ability to*  
**assess the requirements of a complex\* interactive media project.**

### **Elements of the Performance**

- identify and clearly articulate the goals of a complex\* interactive media project.
- articulate the requirements of the client
- explain the profile of the end user
- describe the project deliverables precisely
- describe the project constraints (e.g., timeframe, cost, system and resource constraints, expertise needed etc.)
- identify and describe the appropriate software and hardware that will be used in the project
- discuss any copyright or legal issues that may impact the project
- identify any accessibility issues that may impact the project
- identify and discuss how the success of the project will be measured

*\*See Glossary*

4. *The graduate has reliably demonstrated the ability to*

**develop, budget, plan and professionally present a complex\* interactive media project.**

#### **Elements of the Performance**

- identify and analyze the relevant policies, procedures and regulations that impact a project
- establish and maintain a professional relationship with clients.
- develop a sound business plan
- write an effective project proposal
- analyze key tasks and essential deliverables in complex\* projects
- plan and schedule interactive media\* projects with a collaborative team.
- prepare a project estimate, using industry standards and practices, and sound business concepts
- prepare a budget for a project
- present a complex\* interactive media project plan to a prospective client or a collaborative team in a professional manner

*\*See Glossary*

5. *The graduate has reliably demonstrated the ability to*

**design a complex\* media project (interface, navigation, graphics, text treatment) using best practice design and development principles, and applying conceptual and theoretical frameworks.**

### **Elements of the Performance**

- describe the factors that influence how individuals receive and process information and how these impact the creation of quality interactive media products/projects
- research and apply design concepts and theories relevant to the interactive media field
- explain the interrelationships among typography, graphics, audio, video, animation, photography and interactivity
- evaluate relevant technologies, development or authoring tools, mark-up, scripting or programming languages and approaches, and decide which are appropriate to use
- assess technology issues, (e.g., bandwidth, throughput, system requirements etc.) and recommend appropriate blend of technologies to use
- design appropriate, fit for purpose interfaces or environments that follow universal design
- create effective thumbnails, roughs, storyboards and flowcharts
- determine and explain the correct workflow and pipeline for the interactive project
- represent ideas and concepts in the design of a complex\* interactive media project effectively (e.g., proof of concept)
- define and build a rapid prototype for a complex\* interactive media project
- review and make any necessary revisions to designs appropriately and confidently
- explain and support design decisions both in previously produced projects and current complex\* projects
- analyze and apply current media theory to create an interactive media project

*\*See Glossary*

6. *The graduate has reliably demonstrated the ability to*

**build effective and dynamic complex\* Web sites and/or mobile applications.**

### **Elements of the Performance**

- use principles of programming and content management to create a functional and maintainable product
- write and edit copy for interactive media products, using correct spelling, following rules of grammar and punctuation, and which is suited to target audience
- choose correct assets to meet project goals
- create a clear and effective interface following best practices
- use creative images that are appropriate to the design theme of the site or application
- edit and output video projects for distribution over the Web and other distribution formats
- edit existing audio material to meet appropriate sound requirements.
- create attractive animations within specified parameters and constraints relating to the target platform and medium and that are suitable for intended purpose
- integrate streaming of audio and video content effectively for complex\* projects
- develop standards compliant web pages that are cross-browser, cross platform and cross-device compatible, accessible and highly useable
- use an appropriate mark-up language to control the structure of the site/application, in compliance with relevant standards, guidelines or conventions
- use cascading style-sheets (CSS) to control the presentation of web pages
- combine media technologies effectively
- use industry standard coding techniques to create a dynamic and complex\* web site
- manipulate, validate and store data in a variety of forms
- employ Interface components, load external assets, and display information in a variety of forms
- build full, production-ready e-commerce web applications, including shopping carts
- develop, produce and implement content for online and/or mobile environments, e-learning, interactive installations and/or social networks, as well as for commercial, entertainment, educational and public environments confidently
- test and debug a product to support its correct operation within specified parameters and with typical end users

7. *The graduate has reliably demonstrated the ability to*

**identify and analyze ethical and professional issues arising in an online environment.**

#### **Elements of the Performance**

- analyze issues relating to the concepts of intellectual property and copyright as well as other issues that occur commonly in the interactive media field
- outline a legal contract compensating for the services of an interactive media professional/s
- analyze issues of privacy, confidentiality and data protection that arise during the implementation of a media project
- comply with all laws, regulations, agreements and requirements
- analyze an ethical conflict and provide rationales for decision reached

8. *The graduate has reliably demonstrated the ability to*

**apply research and conceptual skills to propose optimal solutions for mobile/multimedia/Web development problems.**

### **Elements of the Performance**

- search out credible resources to keep abreast of current and emerging trends in interactive media design, concepts and use of technology
- access resources that provide best practice information for all aspects of an interactive media project
- access market research to identify market gaps and opportunities to develop products
- access credible resources for relevant standards and conventions relating to all aspects of the media field
- locate sources of materials (audio, video, authoring etc.) suitable for meeting the creative aspects of any project
- solve basic and complex\* problems using a variety of innovative methods and approaches

*\*See Glossary*

9. *The graduate has reliably demonstrated the ability to*

**select and use creative and critical thinking techniques in the effective design, development and implementation of a complex interactive media project.**

### **Elements of the Performance**

- discuss the process of thinking within a critical framework
- apply critical thinking tools and techniques to resolve complex\* problems within a media project
- reflect upon the process used to create an interactive media project describing impact of own contribution to the project
- integrate and draw upon a wide range of materials/experiences to create a complex\* interactive media project
- explore different ways of using familiar tools and techniques
- produce a project that meets the technical, creative and resource requirements of an interactive media project at a professional level

*\*See Glossary*

10. *The graduate has reliably demonstrated the ability to*

**evaluate the financial, technical and artistic success of a complex\* interactive media project.**

#### **Elements of the Performance**

- determine and measure the criteria that would be used to assess the success of an interactive media project
- evaluate the experience of the end user in terms of navigation, interaction, accessibility and experience
- evaluate the client's satisfaction with the interactive media project
- evaluate whether both individual and collaborative media projects were accomplished on time and within specified budget
- assess personal compliance with relevant laws and standards
- complete revisions in complex\* projects as determined

*\*See Glossary*

## Glossary

**Complex** - Term used to describe an interactive media project that has many different and connected parts and that may be confusing and difficult both to understand and carry to completion.

(Adapted from the Oxford Dictionary, 2012; the MacMillan Dictionary, 2012; the Webster's College Dictionary, 2012)

### III. Essential Employability Skills

*All graduates of the Interactive Media Development program of instruction have reliably demonstrated the essential employability skills learning outcomes listed on the following pages, in addition to achieving the vocational learning outcomes and meeting the general education requirement.*

#### Context

Essential Employability Skills (EES) are skills that, regardless of a student's program or discipline, are critical for success in the workplace, in day-to-day living, and for lifelong learning.

The teaching and attainment of these EES for students in, and graduates from, Ontario's colleges of applied arts and technology are anchored in a set of three fundamental assumptions:

- these skills are important for every adult to function successfully in society today;
- our colleges are well equipped and well positioned to prepare graduates with these skills;
- these skills are equally valuable for all graduates, regardless of the level of their credential, whether they pursue a career path, or they pursue further education.

#### Skill Categories

To capture these skills, the following six categories define the essential areas where graduates must demonstrate skills and knowledge.

- Communication
- Numeracy
- Critical Thinking & Problem Solving
- Information Management
- Interpersonal
- Personal

#### Application and Implementation

In each of the six skill categories, there are a number of defining skills, or sub skills, identified to further articulate the requisite skills identified in the main skill categories. The following chart illustrates the relationship between the skill categories, the defining skills within the categories, and learning outcomes to be

achieved by graduates from all postsecondary programs of instruction that lead to an Ontario College credential.

EES may be embedded in General Education or vocational courses, or developed through discrete courses. However these skills are developed, all graduates with Ontario College credentials must be able to reliably demonstrate the essential skills required in each of the six categories.

<b>SKILL CATEGORY</b>	<b>DEFINING SKILLS:</b>  <b>Skill areas to be demonstrated by graduates:</b>	<b>LEARNING OUTCOMES:</b> <b>The levels of achievement required by graduates.</b>  <b><i>The graduate has reliably demonstrated the ability to:</i></b>
COMMUNICATION	<ul style="list-style-type: none"> <li>• Reading</li> <li>• Writing</li> <li>• Speaking</li> <li>• Listening</li> <li>• Presenting</li> <li>• Visual literacy</li> </ul>	<ol style="list-style-type: none"> <li>1. <i>communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.</i></li> <li>2. <i>respond to written, spoken, or visual messages in a manner that ensures effective communication.</i></li> </ol>
NUMERACY	<ul style="list-style-type: none"> <li>• Understanding and applying mathematical concepts and reasoning</li> <li>• Analyzing and using numerical data</li> <li>• Conceptualizing</li> </ul>	<ol style="list-style-type: none"> <li>3. <i>execute mathematical operations accurately.</i></li> </ol>
CRITICAL THINKING & PROBLEM SOLVING	<ul style="list-style-type: none"> <li>• Analysing</li> <li>• Synthesizing</li> <li>• Evaluating</li> <li>• Decision making</li> <li>• Creative and innovative thinking</li> </ul>	<ol style="list-style-type: none"> <li>4. <i>apply a systematic approach to solve problems.</i></li> <li>5. <i>use a variety of thinking skills to anticipate and solve problems.</i></li> </ol>

SKILL CATEGORY	DEFINING SKILLS: Skill areas to be demonstrated by graduates:	LEARNING OUTCOMES: The levels of achievement required by graduates.  The graduate has reliably demonstrated the ability to:
INFORMATION MANAGEMENT	<ul style="list-style-type: none"> <li>• Gathering and managing information</li> <li>• Selecting and using appropriate tools and technology for a task or a project</li> <li>• Computer literacy</li> <li>• Internet skills</li> </ul>	<p>6. <i>locate, select, organize, and document information using appropriate technology and information systems.</i></p> <p>7. <i>analyze, evaluate, and apply relevant information from a variety of sources.</i></p>
INTERPERSONAL	<ul style="list-style-type: none"> <li>• Team work</li> <li>• Relationship management</li> <li>• Conflict resolution</li> <li>• Leadership</li> <li>• Networking</li> </ul>	<p>8. <i>show respect for the diverse opinions, values, belief systems, and contributions of others.</i></p> <p>9. <i>interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals.</i></p>
PERSONAL	<ul style="list-style-type: none"> <li>• Managing self</li> <li>• Managing change and being flexible and adaptable</li> <li>• Engaging in reflective practices</li> <li>• Demonstrating personal responsibility</li> </ul>	<p>10. <i>manage the use of time and other resources to complete projects.</i></p> <p>11. <i>take responsibility for one's own actions, decisions, and consequences.</i></p>

## IV. General Education Requirement

*All graduates of the Interactive Media Development program have met the general education requirement described on the following pages, in addition to achieving the vocational and essential employability skills learning outcomes.*

### Requirement

The General Education Requirement for programs of instruction is stipulated in the Credentials Framework (Appendix A in the Minister's Binding Policy Directive *Framework for Programs of Instruction*).

For certificate programs: While the inclusion of General Education is locally determined for programs of instruction leading to either a college certificate or on Ontario College Certificate, it is recommended that graduates of the Ontario College Certificate programs have been engaged in learning that incorporates some breadth beyond the vocational field of study.

In programs of instruction leading to either an Ontario College Diploma or an Ontario College Advanced Diploma, it is required that graduates have been engaged in learning that exposes them to at least one discipline outside their main field of study and increases their awareness of the society and culture in which they live and work. This will typically be accomplished by students taking 3 to 5 courses (or the equivalent) designed discretely and separately from vocational learning opportunities.

This general education learning would normally be delivered using a combination of required and elective processes.

### Purpose

The purpose of General Education in the Ontario college system is to contribute to the development of citizens who are conscious of the diversity, complexity, and richness of the human experience; who are able to establish meaning through this consciousness; and, who, as a result, are able to contribute thoughtfully, creatively, and positively to the society in which they live and work.

General Education strengthens student's essential employability skills, such as critical analysis, problem solving, and communication, in the context of an exploration of topics with broad-based personal and/or societal importance.

# Themes

The themes listed below will be used to provide direction to colleges in the development and identification of courses that are designed to fulfill the General Education Requirement for programs of instructions.

Each theme provides a statement of Rationale and offers suggestions related to more specific topic areas that could be explored within each area. These suggestions are neither prescriptive nor exhaustive. They are included to provide guidance regarding the nature and scope of content that would be judged as meeting the intent and overall goals of General Education.

## **1. Arts in Society:**

### *Rationale:*

The capacity of a person to recognize and evaluate artistic and creative achievements is useful in many aspects of his/her life. Since artistic expression is a fundamentally human activity, which both reflects and anticipates developments in the larger culture, its study will enhance the student's cultural and self-awareness.

### *Content:*

Courses in this area should provide students with an understanding of the importance of visual and creative arts in human affairs, of the artist's and writer's perceptions of the world and the means by which those perceptions are translated into the language of literature and artistic expression. They will also provide an appreciation of the aesthetic values used in examining works of art and possibly, a direct experience in expressing perceptions in an artistic medium.

## **2. Civic Life:**

### *Rationale:*

In order for individuals to live responsibly and to reach their potential as individuals and as citizens of society, they need to understand the patterns of human relationships that underlie the orderly interactions of a society's various structural units. Informed people will have knowledge of the meaning of civic life in relation to diverse communities at the local, national, and global level, and an awareness of international issues and the effects of these on Canada, and Canada's place in the international community.

### *Content:*

Courses in this area should provide students with an understanding of the meaning of freedoms, rights, and participation in community and public life, in addition to a working knowledge of the structure and function of various levels of government (municipal, provincial, national) in Canada and/or in an international context. They may also provide an historical understanding of major political issues affecting relations between the various levels of government in Canada and their

constituents.

### **3. Social and Cultural Understanding:**

*Rationale:*

Knowledge of the patterns and precedents of the past provide the means for a person to gain an awareness of his or her place in contemporary culture and society. In addition to this awareness, students will acquire a sense of the main currents of their culture and that of other cultures over an extended period of time in order to link personal history to the broader study of culture.

*Content:*

Courses in this area are those that deal broadly with major social and cultural themes. These courses may also stress the nature and validity of historical evidence and the variety of historical interpretation of events. Courses will provide the students with a view and understanding of the impact of cultural, social, ethnic, or linguistic characteristics.

### **4. Personal Understanding:**

*Rationale:*

Educated people are equipped for life-long understanding and development of themselves as integrated physiological and psychological entities. They are aware of the ideal need to be fully functioning persons: mentally, physically, emotionally, socially, spiritually, and vocationally.

*Content:*

Courses in this area will focus on understanding the individual: his or her evolution; situation; relationship with others; place in the environment and universe; achievements and problems; and his or her meaning and purpose. They will also allow students the opportunity to study institutionalized human social behaviour in a systematic way. Courses fulfilling this requirement may be oriented to the study of the individual within a variety of contexts.

### **5. Science and Technology:**

*Rationale:*

Matter and energy are universal concepts in science, forming a basis for understanding the interactions that occur in living and non-living systems in our universe. Study in this area provides an understanding of the behaviour of matter that provides a foundation for further scientific study and the creation of broader understanding about natural phenomena.

Similarly, the various applications and developments in the area of technology have an increasing impact on all aspects of human endeavour and have numerous social, economic, and philosophical implications. For example, the operation of computers to process data at high speed has invoked an interaction between machines and the human mind that is unique in human history. This development and other technological developments have a powerful impact on how we deal with many of the complex questions in our society.

*Content:*

Courses in this area should stress scientific inquiry and deal with basic or fundamental questions of science rather than applied ones. They may be formulated from traditional basic courses in such areas of study as biology, chemistry, physics, astronomy, geology, or agriculture. As well, courses related to understanding the role and functions of computers (e.g., data management and information processing), and assorted computer-related technologies, should be offered in a non-applied manner to provide students with an opportunity to explore the impact of these concepts and practices on their lives.