

# SENIOR YEARS

## Graphic Communication Technology





## Fundamental Skills

### General Learning Outcome

GLO F1 **Technical Communication:** Communicate technical ideas and designs effectively and appropriately.



Grade 9 Specific Learning Outcome(s)	Grade 10 Specific Learning Outcome(s)	Grade 11 Specific Learning Outcome(s)	Grade 12 Specific Learning Outcome(s)
IA9.F1.1 Use several presentation programs using existing formats to digitally communicate a technical idea.	IA10.F1.1 Design a simple presentation using a presentation program to communicate a technical idea.	IA11.F1.1 Apply an advanced presentation program effectively to communicate a technical idea visually.	IA12.F1.1 Apply an appropriate combination of digital, graphic, oral, and written techniques to effectively communicate a technical idea.
IA9.F1.2 Interpret a graphic presentation of a technical idea.	IA10.F1.2 Adapt a graphic presentation of a technical idea.	IA11.F1.2 Create a graphic presentation of a technical idea.	
IA9.F1.3 Recognize technical language and terms.	IA10.F1.3 Use technical language and terms in the correct context.	IA11.F1.3 Create a set of steps using correct technical writing techniques to effectively describe a technical process.	
IA9.F1.4 Effectively use technical reading skills to follow a set of instructional steps.	IA10.F1.4 Adapt a set of instructional steps using appropriate technical writing skills.		

## Fundamental Skills



### General Learning Outcome

GLO F2: **Problem Solving:** Apply effective decision-making, problem-solving, and design strategies to a project. (Refer to Appendix B for a sample design/problem-solving process.)

Grade 9 Specific Learning Outcome(s)	Grade 10 Specific Learning Outcome(s)	Grade 11 Specific Learning Outcome(s)	Grade 12 Specific Learning Outcome(s)
IA9.F2.1 Demonstrate an understanding of the problem-solving process in designing and producing a product.	IA10.F2.1 Identify problems and apply appropriate problem-solving skills to solve them.	IA11.F2.1 Transfer problem-solving skills to real-life situations.	IA12.F2.1 Research and articulate a problem that can be solved through technological means.
IA9.F2.2 Identify criteria for making and evaluating choices.	IA10.F2.2 Apply a decision-making strategy to practical situations.	IA11.F2.2 Use a variety of critical thinking skills to evaluate situations and make decisions.	IA12.F2.2 Apply problem-solving and design skills to develop a technological solution to a problem.
IA9.F2.3 Demonstrate an understanding of the qualities of good design.	IA10.F2.3 Modify an existing design to meet specified criteria.	IA11.F2.3 Create a design to meet a set of specifications.	IA12.F2.3 Analyze critically and act logically to evaluate situations and make decisions.

## Fundamental Skills

### General Learning Outcome

GLO F3 **Information Management:** Effectively manage information.



<b>Grade 9</b> Specific Learning Outcome(s)	<b>Grade 10</b> Specific Learning Outcome(s)	<b>Grade 11</b> Specific Learning Outcome(s)	<b>Grade 12</b> Specific Learning Outcome(s)
IA9.F3.1 Acquire and organize information using appropriate technology and information systems.	IA10.F3.1 Apply specialized information and skills in real-life situations.	IA11.F3.1 Transfer and apply specialized information and skills in a variety of situations.	IA12.F3.1 Acquire, analyze, and apply specialized information and skills from various disciplines in a variety of realistic circumstances.
IA9.F3.2 Demonstrate the appropriate use of information as directed.	IA10.F3.2 Access and use a range of relevant information, material, and human resources with limited direction.	IA11.F3.2 Acquire and use a range of relevant information, material, and human resources, and recognize when additional resources are required.	IA12.F3.2 Support and enhance basic information requirements by using a wide variety of information, material, and human resources.

## Personal Skills



### General Learning Outcome

GLO P1 **Time Management:** Demonstrate responsibility in time management, task completion, and in meeting project criteria. (Note: based on the Conference Board of Canada's Personal Management Skills)

Grade 9 Specific Learning Outcome(s)	Grade 10 Specific Learning Outcome(s)	Grade 11 Specific Learning Outcome(s)	Grade 12 Specific Learning Outcome(s)
IA9.P1.1 Demonstrate responsibility in time management.	IA10.P1.1 Demonstrate responsibility in time management.	IA11.P1.1 Demonstrate responsibility in time management.	IA12.P1.1 Demonstrate responsibility in time management.
IA9.P1.2 Demonstrate responsibility in being accountable for one's actions.	IA10.P1.2 Demonstrate responsibility in being accountable for one's actions.	IA11.P1.2 Demonstrate responsibility in being accountable for one's actions.	IA12.P1.2 Demonstrate responsibility in being accountable for one's actions.
IA9.P1.3 Arrive at class prepared with materials and completed assignments.	IA10.P1.3 Arrive at class prepared with materials and completed assignments.	IA11.P1.3 Arrive at class prepared with materials and completed assignments.	IA12.P1.3 Arrive at class prepared with materials and completed assignments.
IA9.P1.4 Complete all assigned tasks within stated deadlines.	IA10.P1.4 Complete all assigned tasks within stated deadlines.	IA11.P1.4 Complete all assigned tasks within stated deadlines.	IA12.P1.4 Complete all assigned tasks within stated deadlines.
IA9.P1.5 Complete all projects according to specified criteria.	IA10.P1.5 Complete all projects according to specified criteria.	IA11.P1.5 Complete all projects according to specified criteria.	IA12.P1.5 Complete all projects according to specified criteria.

## Personal Skills

### General Learning Outcome

GLO P2 **Ethical Decision Making:** Make ethical decisions concerning the impact of one’s activities and the use of technology.



Grade 9 Specific Learning Outcome(s)	Grade 10 Specific Learning Outcome(s)	Grade 11 Specific Learning Outcome(s)	Grade 12 Specific Learning Outcome(s)
<p>IA9.P2.1 Make personal judgments whether certain behaviours/actions are right or wrong.</p> <p>IA9.P2.2 Demonstrate an understanding of technological impact on the environment, society, lifestyles, etc.</p>	<p>IA10.P2.1 Assess how personal judgments affect peer members and/or community members.</p> <p>IA10.P2.2 Demonstrate an understanding of the impact of technological choices.</p>	<p>IA11.P2.1 Assess the implications of personal/group actions within the broader community.</p> <p>IA11.P2.2 Develop and implement risk management strategies for a variety of technological activities.</p>	<p>IA12.P2.1 Analyze the implications of personal/group actions within the global context.</p> <p>IA12.P2.2 State and support a personal code of ethics as required.</p> <p>IA12.P2.3 Demonstrate responsible leadership in managing current and future technologies on the environment and on society.</p>

## Personal Skills



### General Learning Outcome

GLO P3 **Career Planning:** Develop an action plan relating personal aptitudes and abilities to occupational opportunities.

Grade 9 Specific Learning Outcome(s)	Grade 10 Specific Learning Outcome(s)	Grade 11 Specific Learning Outcome(s)	Grade 12 Specific Learning Outcome(s)
IA9.P3.1 Identify critical skills needed for employability in today's workplace.	IA10.P3.1 Evaluate employability profiles for a variety of workplaces and careers.	IA11.P3.1 Develop strategies to assess personal technological literacy and capability.	IA12.P3.1 Assess specific personal skills, interests, and abilities (career portfolio).
IA9.P3.2 Demonstrate an awareness of the technologies of specific occupations and workplaces.	IA10.P3.2 Outline skills required for a specific career path.	IA11.P3.2 Perform an assessment of personal strengths and weaknesses (career portfolio).	IA12.P3.2 Develop a plan for acquiring the technological capabilities required to achieve a career vision (career portfolio).



## Personal Skills

### General Learning Outcome

GLO P4 **Safe Practices:** Demonstrate safe practices with tools, machines, materials, and related processes. (Refer to: Keeping Your Facilities SAFE: A Support Document for Industrial Arts Teachers, Manitoba Education and Youth, 2003.)



Grade 9 Specific Learning Outcome(s)	Grade 10 Specific Learning Outcome(s)	Grade 11 Specific Learning Outcome(s)	Grade 12 Specific Learning Outcome(s)
IA9.P4.1 Follow personal and environmental health and safety procedures.	IA10.P4.1 Recognize and follow personal and environmental health and safety procedures.	IA11.P4.1 Establish and follow personal and environmental health and safety procedures.	IA12.P4.1 Transfer and apply personal and environmental health and safety procedures to a variety of environments and situations.
IA9.P4.2 Identify immediate hazards and their impact on self, others, and the environment.	IA10.P4.2 Identify immediate and potential hazards and their impact on self, others, and the environment.	IA11.P4.2 Identify immediate and potential hazards and assess their impact on self, others, and the environment.	IA12.P4.2 Identify immediate and potential hazards and assess their impact on self, others, and the environment, and recommend safe procedures.
IA9.P4.3 Identify and follow appropriate emergency response procedures.	IA10.P4.3 Identify and follow appropriate emergency response procedures.	IA11.P4.3 Identify and follow appropriate emergency response procedures.	IA12.P4.3 Identify and follow appropriate emergency response procedures.

## Personal Skills



### General Learning Outcome

GLO P5 **Positive Attitude:** Demonstrate positive attitudes to learning in Industrial Arts facilities.

Grade 9 Specific Learning Outcome(s)	Grade 10 Specific Learning Outcome(s)	Grade 11 Specific Learning Outcome(s)	Grade 12 Specific Learning Outcome(s)
IA9.P5.1 Listen, in order to understand and learn.	IA10.P5.1 Listen and respond, in order to understand and learn.	IA11.P5.1 Listen and respond, in order to understand, learn and teach.	IA12.P5.1 Listen and respond, in order to understand, learn, teach, and evaluate.
IA9.P5.2 Demonstrate a willingness to continuously learn.	IA10.P5.2 Assess personal learning needs (i.e., personal learning style).	IA11.P5.2 Identify learning sources and opportunities.	IA12.P5.2 Set learning goals and develop a personal learning plan.
IA9.P5.3 Actively participate in a positive manner.	IA10.P5.3 Actively participate in a positive manner.	IA11.P5.3 Actively participate in a positive manner.	IA12.P5.3 Actively participate in a positive manner.

## Personal Skills

### General Learning Outcome

GLO P6 **Teamwork:** Adapt strategies to work effectively, independently, or as a team member to complete a project.



Grade 9 Specific Learning Outcome(s)	Grade 10 Specific Learning Outcome(s)	Grade 11 Specific Learning Outcome(s)	Grade 12 Specific Learning Outcome(s)
IA9.P6.1 Demonstrate an understanding of the role of members of a team.	IA10.P6.1 Contribute to a team to achieve its mandate.	IA11.P6.1 Identify the need to lead and/or support in a team situation, in order to achieve the team mandate.	IA12.P6.1 Understand and work with others on a "job" to achieve the best results.
IA9.P6.2 Acknowledge the opinions and contributions of all team members.	IA10.P6.2 Respect the opinions and contributions of all team members.	IA11.P6.2 Seek and appreciate the opinions and contributions of all team members.	IA12.P6.2 Lead and/or support as appropriate to motivate a team for high performance.
IA9.P6.3 List and define team objectives.	IA10.P6.3 Contribute to the development of team objectives and goals.	IA11.P6.3 →	IA12.P6.3 Develop and/or refine a team approach based on needs and benefits.

## Production Skills



### General Learning Outcome

GLO GC1 **Image Acquisition:** Demonstrate the principals and processes involved with image acquisition and creation.

Grade 9 Specific Learning Outcome(s)	Grade 10 Specific Learning Outcome(s)	Grade 11 Specific Learning Outcome(s)	Grade 12 Specific Learning Outcome(s)
IA9.GC1.1 Identify several methods of acquiring and creating images such as scanning, digital photography, using clip art ...	IA10.GC1.1 →	IA11.GC1.1 →	IA12.GC1.1 Acquire and modify images using appropriate methods.
IA9.GC1.2 Create raster graphic images.	IA10.GC1.2 →	IA11.GC1.2 →	IA12.GC1.2 →
IA9.GC1.3 Create vector graphic images.	IA10.GC1.3 →	IA11.GC1.3 →	IA12.GC1.3 →

## Production Skills

### General Learning Outcome

GLO GC2 **Still Image Production:** Apply knowledge and practical skills to produce still image visual representations of ideas or abstract concepts.



Grade 9 Specific Learning Outcome(s)	Grade 10 Specific Learning Outcome(s)	Grade 11 Specific Learning Outcome(s)	Grade 12 Specific Learning Outcome(s)
IA9.GC2.1 Identify the procedures required for producing a visual representation by relief printing.	IA10.GC2.1 →	IA11.GC2.1 →	IA12.GC2.1 Use several types of relief printing appropriately to create visual representations.
IA9.GC2.2 Identify the procedures required for producing a visual representation by screen printing.	IA10.GC2.2 →	IA11.GC2.2 →	IA12.GC2.2 Use several types of screen printing appropriately to create visual representations.
IA9.GC2.3 Identify the procedures required for producing a visual representation by lithography.	IA10.GC2.3 →	IA11.GC2.3 →	IA12.GC2.3 Use several types of lithography appropriately to create visual representations.
IA9.GC2.4 Identify the procedures required for producing a visual representation by continuous tone and process photography.	IA10.GC2.4 →	IA11.GC2.4 →	IA12.GC2.4 Use several types of continuous and process photography appropriately to create visual representations.
IA9.GC2.5 Identify the procedures required for producing a visual representation by electronic media.	IA10.GC2.5 →	IA11.GC2.5 →	IA12.GC2.5 Use several types of relief printing appropriately to create visual representations.

## Production Skills



### General Learning Outcome

GLO GC3 **Binding and Packaging:** Demonstrate and apply the knowledge and skills to finish a product for distribution.

Grade 9 Specific Learning Outcome(s)	Grade 10 Specific Learning Outcome(s)	Grade 11 Specific Learning Outcome(s)	Grade 12 Specific Learning Outcome(s)
IA9.GC3.1 Identify several methods of binding such as stapling, gum binding, coil binding, stitching...	IA10.GC3.1 →	IA11.GC3.1 →	IA12.GC3.1 Bind a printed run using an appropriate method to fulfill a specific set of requirements.
IA9.GC3.2 Identify several packaging methods and systems such as applying covers, folding, collating ...	IA10.GC3.2 →	IA11.GC3.2 →	IA12.GC3.2 Determine and apply appropriate packaging to fulfill a specific set of document requirements..

## Production Skills

### General Learning Outcome

GLO GC4 **Animated Images:** Apply knowledge and skills to produce animated images of ideas or abstract concepts.



Grade 9 Specific Learning Outcome(s)	Grade 10 Specific Learning Outcome(s)	Grade 11 Specific Learning Outcome(s)	Grade 12 Specific Learning Outcome(s)
IA9.GC4.1 Demonstrate an understanding of and use basic animation terms such as storyboarding, cels, fielding, hand inking, frame rate, embed, tweening ...	IA10.GC4.1 →	IA11.GC4.1 →	IA12.GC4.1 →
IA9.GC4.2 Identify and explain several 2-D methods of animation such as hand-drawn cels, cut-out animation, computer-drawn frames ...	IA10.GC4.2 →	IA11.GC4.2 →	IA12.GC4.2 Create a 2-D animation using an appropriate method to fulfill a specific set of requirements.
IA9.GC4.3 Identify and explain several 3-D methods of animation such as claymation, stop action, live, digital animation, 3-D computer animation ...	IA10.GC4.3 →	IA11.GC4.3 →	IA12.GC4.3 Create a 3-D animation using an appropriate method to fulfill a specific set of requirements.

## Production Skills



### General Learning Outcome

GLO GC5 **Video Editing:** Create and edit video productions.

Grade 9 Specific Learning Outcome(s)	Grade 10 Specific Learning Outcome(s)	Grade 11 Specific Learning Outcome(s)	Grade 12 Specific Learning Outcome(s)
IA9.GC5.1 Demonstrate an understanding of and use basic video production terms such as storyboarding, scripting, continuity, non-linear editing, NTSC, PAL ...	IA10.GC5.1 →	IA11.GC5.1 →	IA12.GC5.2 →
IA9.GC5.2 Identify the steps and requirements of video pre-production such as storyboarding, scripting, set preparation ...	IA10.GC5.2 →	IA11.GC5.2 →	IA12.GC5.3 Combine production knowledge, good design process, and teamwork to complete the pre-production work for a video project.
IA9.GC5.3 Identify the steps and requirements of video production such as camera operation, lighting, sound, continuity, production management ...	IA10.GC5.3 →	IA11.GC5.3 →	IA12.GC5.4 Combine production knowledge, good design process, and teamwork to complete the production work for a video project.
IA9.GC5.4 Identify the steps and requirements of video editing such as log and capturing, timelines, clips, transitions, effects, titles ...	IA10.GC5.4 →	IA11.GC5.4 →	IA12.GC5.5 Combine production knowledge, good design process, and teamwork to complete the post-production work for a video project.



## Production Skills

### General Learning Outcome

GLO GC6 **Current Innovation:** Demonstrate an understanding of current innovation in graphic communication processes, applications, and emerging new technologies.



Grade 9 Specific Learning Outcome(s)	Grade 10 Specific Learning Outcome(s)	Grade 11 Specific Learning Outcome(s)	Grade 12 Specific Learning Outcome(s)
IA9.GC6.1 Identify several current innovations in graphic communication such as wide-format printing, interactive graphics, 3-D animation multi-camera motion capture ...	IA10.GC6.1 →	IA11.GC6.1 →	IA12.GC6.1 Research, explain, and demonstrate several current innovations in graphic communication.

