



8472

ADVANCED PRINT  
PRODUCTION (12C)

40S/40E/40M

A Print Media Course



# 8472: ADVANCED PRINT PRODUCTION (12C) 40S/40E/40M

## Course Description

This course is intended for students entering the completion phase of their print media studies.

Curriculum content provides for an overview of the print production process and application of that process in print media. Topics include the following:

- print production equipment operation and maintenance
- introduction to post press
- finishing
- advanced colour management
- advanced calculations
- bindery

Students in the course will independently apply essential skills related to safety and employability. They will continue to develop their knowledge, skills, and attitudes in the areas of career development, sustainability, and new and emerging technologies in print production.

Cross-curricular learning outcomes, which include essential print media math, the science of print media, and the interpretation of print media documents, are to be integrated into the authentic activities of the course.

The learning outcomes are organized by Technology Fundamentals (F), Technology Skills (S), and Professional Practice (P) strands. For instructional purposes, the sequence of outcomes and the outcomes included in each unit of study can vary based on the projects within the course.

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**Goal 1:** Demonstrate ability to apply the creative process to develop a professional **design** for print.

**GLO 1.1:** Identify the **design problem**.

- SLO 12C.F.1.1.1 Determine which adjustments need to be made to the printing process and materials in order to accommodate for the design.
  - SLO 12C.S.1.1.1 Adjust the printing process and materials to accommodate for the design.
  - SLO 12C.S.1.1.2 Verify the technical specifications to match the client's requirements (e.g., substrate, die lines, colours, accuracy, and quality of work).
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**GLO 1.2:** Research the **factors that influence design.**

- SLO 12C.F.1.2.1 Distinguish between online and offline finishing techniques.
  - SLO 12C.F.1.2.2 Describe online finishing techniques (e.g., thermography, numbering, and bar coding).
  - SLO 12C.F.1.2.3 Describe the qualities of different substrates (e.g., finish, grain direction, thickness, pressure sensitivity, distortion factor, faults, water damage, corrugation, and types of stock).
  - SLO 12C.S.1.2.1 Select and apply appropriate substrate and finishing techniques for each print job.
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**GLO 1.3:** Recognize and apply the **elements and principles of design.**

- SLO 12C.F.1.3.1 Demonstrate an awareness of die cuts in print production (e.g., packaging, folders, label templates, and vinyl cuts).
  - SLO 12C.S.1.3.1 Produce a comprehensive, folded mock-up or dummy.
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**GLO 1.4: Conceptualize** the design solution.

No applicable SLOs.

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**GLO 1.5: Communicate** the design solution.

- SLO 12C.F.1.5.1 Recognize the importance of participating in print production meetings with a focus on design solutions.
  - SLO 12C.S.1.5.1 Participate actively in print production meetings with a focus on design solutions.
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**GLO 1.6:** Describe and apply **appropriate technology** to achieve the design solution.

- SLO 12C.F.1.6.1 Demonstrate advanced knowledge of colour management/colour modes (e.g., subtractive, additive colour, spot, and CMYK).
  - SLO 12C.S.1.6.1 Choose between process and spot colours in order to achieve the design solution.
  - SLO 12C.S.1.6.2 Apply manual or automatic trapping.
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**Goal 2:** Describe and apply **graphic print production processes.**

**GLO 2.1:** Describe and apply appropriate **pre-press techniques.**

- SLO 12C.F.2.1.1 Demonstrate an understanding of make-ready tasks.

- SLO 12C.F.2.1.2 Describe the properties of substrate for the printing job (e.g., fanning, jogging, and curl).
  - SLO 12C.S.2.1.1 Select and prepare substrate for the printing job (e.g., fanning, jogging, and curl).
  - SLO 12C.S.2.1.2 Perform make-ready tasks (e.g., prepare dampening system, prepare ink, prepare plates, prepare blanket, set drying system, and paper path).
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**GLO 2.2:** Describe and apply commonly used **print production methods.**

- SLO 12C.F.2.2.1 Demonstrate an awareness of when and how to incorporate troubleshooting techniques to resolve production issues (e.g., noise, misfeeding, non-functioning, and production inconsistencies).
  - SLO 12C.S.2.2.1 Apply printing production methods to create advanced, multicoloured projects.
  - SLO 12C.S.2.2.2 Diagnose printing problems while running a press.
  - SLO 12C.S.2.2.3 Set up, operate, and monitor the systems for print operation (e.g., paper feeder system, feeder system, dampening system, inking system, delivery system, and image carrier system).
  - SLO 12C.S.2.2.4 Incorporate quality control procedures for the printing process (e.g., registration, plugged up half-tones, plugged screens, excessive inking, scumming, problems associated with image carriers, hickeys, and set-off or offset).
  - SLO 12C.S.2.2.5 Initiate and perform troubleshooting techniques to resolve production issues (e.g., noise, misfeeding, non-functioning, and production inconsistencies).
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**GLO 2.3:** Describe and apply **post-press methods.**

- SLO 12C.F.2.3.1 Describe the post-press operations (e.g., making perforations, punching, collating, trimming, binding, covering, scoring, gluing, padding, varnishing, laminating, foiling, embossing, folding, and die cutting).
- SLO 12C.F.2.3.2 Describe steps in binding and finishing printed material (e.g., stitching, spiral binding, glue binding, plastic coil, metal coil, comb binding, and perfect binding).
- SLO 12C.F.2.3.3 Describe problems associated with post-press operations and the appropriate quality control procedures.
- SLO 12C.S.2.3.1 Perform post-press operations.
- SLO 12C.S.2.3.2 Bind and/or finish printed material.

- SLO 12C.S.2.3.3 Diagnose problems associated with post-press operations and incorporate the appropriate quality control procedures.
  - SLO 12C.S.2.3.4 Perform troubleshooting techniques to resolve post-press issues.
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**Goal 3:** Operate and maintain the **tools and equipment** used in the print production industry.

**GLO 3.1:** Operate computer **hardware and software**.

- SLO 12C.S.3.1.1 Operate and maintain the tools and equipment used in print production.
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**GLO 3.2:** Operate and maintain **print production tools and equipment**.

- SLO 12C.F.3.2.1 Describe the operation and maintenance procedures for print production tools and equipment (e.g., cleaning, removing rollers, lubricating, and perform minor repairs and adjustments).
  - SLO 12C.S.3.2.1 Operate and maintain print production tools and equipment.
  - SLO 12C.S.3.2.2 Clean and organize the workspace associated with print production.
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**GLO 3.3:** Operate and maintain **post-press tools and equipment**.

- SLO 12C.F.3.3.1 Describe advanced post-press operations as they relate to print production methods.
  - SLO 12C.F.3.3.2 Describe the operation and maintenance procedures for post-press tools and equipment (e.g., cutters, folders).
  - SLO 12C.F.3.3.3 Describe advanced post-press tools and equipment.
  - SLO 12C.S.3.3.1 Complete advanced post-press operations as they relate to print production methods.
  - SLO 12C.S.3.3.2 Apply advanced post-press techniques (e.g., complex cutting and folding).
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**GLO 3.4:** Handle and store print production materials.

- SLO 12C.S.3.4.1 Select and use materials required for print production operations.
- SLO 12C.S.3.4.2 Handle and store materials used in print production processes.

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**Goal 4:** Describe and apply the transferable **cross-curricular** (e.g., math, literacy, and scientific) knowledge and skills as they apply to the print industries.

**GLO 4.1:** Apply **mathematical solutions** to design production problems (e.g., conversion, measurement, estimation, and accuracy).

- SLO 12C.S.4.1.1 Perform calculations (i.e., addition, subtraction, multiplication, and division of whole and decimal numbers and fractions).
  - SLO 12C.S.4.1.2 Apply measurement to set-up of press and post-press equipment.
  - SLO 12C.S.4.1.3 Apply ratios (e.g., mixing ink, chemicals).
  - SLO 12C.S.4.1.4 Apply measurements to post-press procedures (e.g., cutting, trimming, and folding).
  - SLO 12C.S.4.1.5 Apply calculations and consider factors for optimal paper usage (e.g., sheets out, paper grain).
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**GLO 4.2: Read, write, interpret, and communicate information** related to the design and print process (e.g., proofreading, visual, and/or written communication).

- SLO 12C.S.4.2.1 Interpret work-related materials and verify for print and post-press production (e.g., specifications, teacher instructions, and docket).
  - SLO 12C.S.4.2.2 Read and extract information from materials on topics related to print and post-press production (e.g., manuals, online sources, and RFPs).
  - SLO 12C.S.4.2.3 Apply proper spelling, grammar, and punctuation to written work.
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**GLO 4.3:** Describe the **physical properties of materials** used in the print production process and factors in the physical environment (e.g., conductivity, pH, and viscosity).

- SLO 12C.S.4.3.1 Demonstrate sufficient understanding of the physical properties of print production materials to ensure that the materials are at a standard suitable for the print job (e.g., expired inks, chemical ratios).

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**Goal 5:** Consider the impact of **sustainability** as it pertains to the print industry.

**GLO 5.1:** Appreciate the implications of the printing process on the **environment**.

SLO 12C.S.5.1.1 Follow sustainability practices for processes and materials used in print production.

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**GLO 5.2:** Describe the interaction between society and the print industry and its impact on **sustainability**.

No applicable SLOs.

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**GLO 5.3:** Recognize the **economic benefits of sustainable practices** in the print industry.

SLO 12C.S.5.3.1 Present specific economic benefits of sustainable practices in print production.

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**Goal 6:** Explain the **evolution, technological progression, and emerging trends** in the print industry.

**GLO 6.1:** Appreciate the **historical significance, social impact, and continuing evolution** and development of the print industry (e.g., the evolution and progression of design styles and approaches).

SLO 12C.S.6.1.1 Describe the historical significance, social impact, and continuing evolution and development of print production materials and processes.

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**GLO 6.2:** Demonstrate an awareness of the **evolution and progression of design styles and approaches**.

No applicable SLOs.

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**GLO 6.3:** Demonstrate awareness of the continuing **evolution of the print industry**, as well as its **emerging trends and future technologies**.

SLO 12C.S.6.3.1 Demonstrate an awareness of emerging and future print production technologies.

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**Goal 7:** Demonstrate knowledge of appropriate **health and safety** practices and the ability to recognize and apply them to maintain a safe workplace.

**GLO 7.1:** Describe and apply **health and safety rights, responsibilities, and procedures.**

SLO 12C.P.7.1.1 Describe and apply health and safety rights, responsibilities, and safety procedures as they apply to print production.

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**GLO 7.2:** Describe and follow **health and safety laws and regulations** as they relate to graphic print production.

SLO 12C.P.7.2.1 Demonstrate appropriate health and safety regulations that are required during print production.

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**Goal 8:** Describe and follow the **ethical and legal standards** in the print industry.

**GLO 8.1:** Describe and follow current legal responsibilities and requirements when accessing **intellectual property** (e.g., copyright, trademarks).

SLO 12C.P.8.1.1 Demonstrate an understanding of the current legal responsibilities and requirements when accessing intellectual property in relation to print production.

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**GLO 8.2:** Describe and follow **ethical trade practices.**

SLO 12C.P.8.2.1 Describe and follow ethical trade practices during print production (e.g., secure documents).

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**Goal 9:** Demonstrate **employability skills** required in the graphic design and print industries.

**GLO 9.1:** Demonstrate **fundamental employability skills.**

SLO 12C.P.9.1.1 Arrive to the work station on time and ready to work.

SLO 12C.P.9.1.2 Consider how employability skills can be transferred among school, work, and daily life.

SLO 12C.P.9.1.3 Communicate using the language of the trade area.

SLO 12C.P.9.1.4 Share information through written and oral communication.

SLO 12C.P.9.1.5 Understand and appreciate the points of view of others.

SLO 12C.P.9.1.6 Access, analyze, and apply information resources to solve trade area problems.

SLO 12C.P.9.1.7 Analyze and evaluate problems and recommend creative and innovative solutions.

SLO 12C.P9.1.8 Implement solution and assess for effectiveness.

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**GLO 9.2:** Demonstrate **personal management skills**.

- SLO 12C.P9.2.1 Interact with people, problems, and situations with honesty, integrity, and personal ethics.
  - SLO 12C.P9.2.2 Demonstrate interest, initiative, and effort.
  - SLO 12C.P9.2.3 Plan and manage time to complete tasks/projects within stated deadlines.
  - SLO 12C.P9.2.4 Demonstrate responsibility and leadership by being accountable for your actions and those of your group.
  - SLO 12C.P9.2.5 Adapt to change and compromise in new situations and suggest alternative ways to achieve complete tasks/projects.
  - SLO 12C.P9.2.6 Demonstrate the willingness to continuously learn and teach, mentor, or coach others.
  - SLO 12C.P9.2.7 Develop a personal learning plan.
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**GLO 9.3:** Demonstrate **teamwork skills**.

- SLO 12C.P9.3.1 Recognize and respect people's diversity, individual differences, and perspectives when working in a group.
  - SLO 12C.P9.3.2 Lead or support a group, when appropriate, to achieve the goals of the group.
  - SLO 12C.P9.3.3 Provide contributions to the group and work within its dynamics to achieve a goal.
  - SLO 12C.P9.3.4 Independently plan, design, or carry out a project or task from start to finish, monitoring for agreed-upon work standards along the way.
  - SLO 12C.P9.3.5 Readily provide assistance to other students and teachers to complete a task/project.
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**Goal 10:** Describe **career opportunities** in the print production industry.

**GLO 10.1:** Demonstrate awareness of **employment and post-secondary opportunities** related to print production.

- SLO 12C.P10.1.1 Identify various sectors and occupational areas related to print production.
  - SLO 12C.P10.1.2 Demonstrate awareness of the working conditions and dynamics of the print production industry.
  - SLO 12C.P10.1.3 Select *Advanced Print Production* items for their Print Media Career Portfolio.
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