



8469

PRINT PRODUCTION (11C)

30S/30E/30M

A Print Media Course



# 8469: PRINT PRODUCTION (11C) 30S/30E/30M

## Course Description

This course is intended for students considering completing the specialization phase in print media.

Curriculum content focuses on the initial stages of print production within the print media process. Topics include the following:

- ink
- substrate
- substrate path
- print production chemicals
- print production process
- measurements

The course includes an emphasis on essential skills related to safety and employability. Students also learn about career development, sustainability, and new and emerging technologies specifically related to print media design.

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 11C.F.1.1.1 Check customer requirements.
- SLO 11C.F.1.1.2 Recognize that the printing process and materials need to be adjusted in order to accommodate for the design.
- SLO 11C.F.1.1.3 Describe different properties found in substrates and how these affect the print outcome.
- SLO 11C.S.1.1.1 Interpret and organize information specific to the design.
- SLO 11C.S.1.1.2 Adjust the printing process and materials to accommodate for the design.

SLO 11C.S.1.1.3 Verify the technical specifications to match the client's requirements (e.g., substrate, die lines, colours, and accuracy and quality of work).

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**GLO 1.2:** Research the **factors that influence design.**

- SLO 11C.F.1.2.1 Distinguish between online and offline finishing techniques.
  - SLO 11C.F.1.2.2 Describe online finishing techniques (e.g., thermography, numbering, and bar coding).
  - SLO 11C.F.1.2.3 Describe the qualities of different substrates (finish, grain direction, thickness, pressure sensitivity, distortion factor, faults, water damage, corrugation, and types of stock).
  - SLO 11C.S.1.2.1 Interpret specifications and models for output.
  - SLO 11C.S.1.2.2 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 11C.F.1.3.1 Demonstrate an awareness of die cuts in print production (e.g., packaging, folders, label templates, and vinyl cuts).
  - SLO 11C.S.1.3.1 Produce a 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 11C.F.1.5.1 Recognize the importance of participating in print production meetings with a focus on design solutions.
  - SLO 11C.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 11C.F.1.6.1 Demonstrate intermediate knowledge of colour management/colour modes (e.g., subtractive, additive colour, spot, and CMYK).
- SLO 11C.F.1.6.2 Determine whether design elements should overprint or knock out.
- SLO 11C.F.1.6.3 Demonstrate an understanding of trapping, spreading, and choking.

- SLO 11C.S.1.6.1 Distinguish between process and spot colours in order to achieve the design solution.
- SLO 11C.S.1.6.2 Determine whether files need to be trapped.

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**Goal 2:** Describe and apply **graphic print production processes.**

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

- SLO 11C.F.2.1.1 Demonstrate an understanding of make-ready tasks.
- SLO 11C.F.2.1.2 Describe the properties of substrate for the printing job (e.g., fanning, jogging, and curl).
- SLO 11C.S.2.1.1 Select and prepare substrate for the printing job (e.g., fanning, jogging, and curl).
- SLO 11C.S.2.1.2 Perform make-ready tasks (e.g., prepare dampening system, prepare ink, prepare plates, prepare blanket, and set drying system and paper path).

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**GLO 2.2:** Describe and apply commonly used **print production methods.**

- SLO 11C.F.2.2.1 Describe how colour standards affect the types of target (e.g., density, dot gain).
  - SLO 11C.F.2.2.2 Describe the steps in operating a press.
  - SLO 11C.F.2.2.3 Describe printing and equipment problems.
  - SLO 11C.F.2.2.4 Demonstrate an awareness of troubleshooting techniques to resolve production issues (e.g., noise, misfeeding, non-functioning, and production inconsistencies).
  - SLO 11C.S.2.2.1 Apply print production methods to create simple (e.g., one- or two-colour) projects.
  - SLO 11C.S.2.2.2 Diagnose printing problems while running a press.
  - SLO 11C.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 11C.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, set-off, or offset).
  - SLO 11C.S.2.2.5 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 11C.F.2.3.1 Describe the post-press operations (e.g., making perforations, punching, collating, trimming, binding, covering, scoring, gluing, padding, varnishing, lamination, foiling, embossing, folding, and die cutting).
- SLO 11C.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 11C.F.2.3.3 Describe problems associated with post-press operations and the appropriate quality control procedures.
- SLO 11C.S.2.3.1 Perform post-press operations.
- SLO 11C.S.2.3.2 Bind and/or finish printed material.
- SLO 11C.S.2.3.3 Diagnose problems associated with post-press operations and incorporate the appropriate quality control procedures.

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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**.

No applicable SLOs.

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**GLO 3.2:** Operate and maintain **print production tools and equipment**.

- SLO 11C.F.3.2.1 Describe the operation and maintenance procedures for print production tools and equipment (e.g., cleaning and removing rollers, lubricating, and performing minor repairs and adjustments).
- SLO 11C.S.3.2.1 Operate and maintain print production tools and equipment.
- SLO 11C.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 11C.F.3.3.1 Describe intermediate post-press tools and equipment (e.g., simple cutting and folding, collating, and drilling).
  - SLO 11C.F.3.3.2 Describe the operation and maintenance procedures for post-press tools and equipment (e.g., cutters, folders).
  - SLO 11C.S.3.3.1 Operate and maintain post-press tools and equipment.
  - SLO 11C.S.3.3.2 Apply intermediate post-press techniques.
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**GLO 3.4:** Handle and store print production materials.

No applicable SLOs.

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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 11C.F.4.1.1 Describe calculations and factors for optimal paper usage (e.g., sheets out, paper grain).
- SLO 11C.F.4.1.2 Describe ratios and percentages as they relate to ink and chemical mixing.
- SLO 11C.S.4.1.1 Perform basic calculations (i.e., addition, subtraction, multiplication, and division of whole and decimal numbers and fractions).
- SLO 11C.S.4.1.2 Apply measurement to set-up of press and post-press equipment.
- SLO 11C.S.4.1.3 Apply ratios (e.g., mixing ink, chemicals).
- SLO 11C.S.4.1.4 Apply measurements to post-press procedures (e.g., cutting, trimming, and folding).

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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 11C.S.4.2.1 Read simple and brief work-related materials for print and post-press production (e.g., specifications, teacher instructions, and docket).
- SLO 11C.S.4.2.2 Read materials on topics related to print production (e.g., manuals, online sources, and RFPs).
- SLO 11C.S.4.2.3 Apply proper spelling, grammar, and punctuation to written work.
- SLO 11C.S.4.2.4 Read and understand instructions and specifications.

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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).

No applicable SLOs.

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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 11C.F.5.1.1 Identify the significance of reducing, reusing, and recycling as it applies to print production.

SLO 11C.S.5.1.1 Reduce, reuse, or recycle print production materials (i.e., chemicals, paper, or image carriers).

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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 11C.F.5.3.1 Recognize the economic benefits of sustainability on 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 11C.F.6.1.1 Describe the historical significance and social impact of print production.

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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 11C.F.6.3.1 Demonstrate an awareness of the continuing evolution of print production, as well as its emerging trends and future 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 11C.P.7.1.1 Demonstrate adherence to safe practices and procedures for facilities, processes, materials, tools, and equipment used in print production.
  - SLO 11C.P.7.1.2 Describe and apply health and safety rights, responsibilities, and safety procedures as they apply to print production.
  - SLO 11C.P.7.1.3 Describe fire prevention and control strategies.
  - SLO 11C.P.7.1.4 Describe emergency evacuation and response procedures.
  - SLO 11C.P.7.1.5 Identify hazards associated with unique print production situations (e.g., moving parts, safety guards, storing and disposing chemicals, sound, and ventilation).
  - SLO 11C.P.7.1.6 Describe hazards (e.g., electrical safety, ergonomics, material handling, chemical, and sound) related to print production materials, processes, tools, and equipment, as well as the precautions that should be taken to avoid these hazards (e.g., spill kit).
  - SLO 11C.P.7.1.7 Identify and use the safety features of tools and equipment (e.g., guards, equipment start-up lag, kill switches, lockout, and tag out) appropriately.
  - SLO 11C.P.7.1.8 Demonstrate ergonomically correct procedures to avoid injury (e.g., stress, strain).
  - SLO 11C.P.7.1.9 Locate first aid and eyewash station.
  - SLO 11C.P.7.1.10 Demonstrate the appropriate use of protective clothing, gear, and equipment.
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**GLO 7.2:** Describe and follow **health and safety laws and regulations** as they relate to graphic print production.

- SLO 11C.P.7.2.1 Use, handle, and store materials in accordance with WHMIS guidelines.
- SLO 11C.P.7.2.2 Identify and comply with health and safety legislation and practices.
- SLO 11C.P.7.2.3 Describe the rights and responsibilities of employees (e.g., the right to know, the right to refuse, and the right to participate).
- SLO 11C.P.7.2.4 Describe the reporting process for injuries.

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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 11C.P.8.1.1 Describe ownership rights and the process for securing intellectual property (e.g., plagiarism, copyright violation, hate literature, and acknowledging sources).

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

SLO 11C.P.8.2.1 Describe and follow ethical trade practices in relation to print production.

SLO 11C.P.8.2.2 Identify ethical trade practices (e.g., product security) related to print production.

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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 11C.P.9.1.1 Describe the importance of employability skills in school, work, and daily life.

SLO 11C.P.9.1.2 Listen and ask questions to clarify problems and instructions.

SLO 11C.P.9.1.3 Locate, gather, and organize *trade area* information using appropriate technology and information systems.

SLO 11C.P.9.1.4 Assess situations and identify problems and possible solutions.

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

SLO 11C.P.9.2.1 Arrive to the work station on time, ready to work.

SLO 11C.P.9.2.2 Demonstrate interest, initiative, and effort.

SLO 11C.P.9.2.3 Manage time to complete tasks/projects within stated deadlines.

SLO 11C.P.9.2.4 Demonstrate responsibility by being accountable for your actions and those of your group.

SLO 11C.P.9.2.5 Respond constructively to changes and feedback.

SLO 11C.P.9.2.6 Demonstrate the willingness to continuously learn.

SLO 11C.P.9.2.7 Appreciate the need for continuous learning in technologically dependant occupations.

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**GLO 9.3:** Demonstrate **teamwork skills**.

- SLO 11C.P9.3.1 Be respectful, open to, and supportive of the thoughts, opinions, and contributions of others in a group.
  - SLO 11C.P9.3.2 Contribute information and skills to achieve the goals of a group.
  - SLO 11C.P9.3.3 Contribute willingly to classroom/shop activities.
  - SLO 11C.P9.3.4 Accept and offer assistance from others.
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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 11C.P10.1.1 Identify and describe career and employment opportunities related to print production.
  - SLO 11C.P10.1.2 Select *Print Production* items for their Print Media Career Portfolio.
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