
COLLEGE OF IMAGING ARTS & SCIENCES

-----TOPIC OUTLINE FORM-----

Shell courses have very flexible course outlines that allow instructors to develop a specific focus and content for their particular Topic offered within the Shell.

In order for a new Topic within a Shell course to be scheduled, a completed, approved digital version of this form must be submitted to the Scheduling Officer by the scheduling deadline date for the term in which the topic will be offered. **No late submissions will be accepted.**

Procedure for proposing a new Topic:

1. Faculty proposing to offer a new Topic will complete this form, and forward to the Program Chairperson or Graduate Director for approval initials.
2. The Program Chairperson or Graduate Director then secures the approval initials of the school's Administrative Chair on this form.
3. The Administrative Chair forwards the form to the CIAS CCC chair for review.
4. If approved by the chair of the CIAS CCC, a digital version of this form will be forwarded to the CIAS Scheduling Officer for processing. A copy is also sent to the school's representative on the appropriate CIAS College Curriculum Committee (either graduate or undergraduate).

Repeat for Credit # Times Online

COURSE # and TITLE: TOPIC: MAAT-550-Media Arts Topics: Sustainability in the Graphic Arts

Proposing faculty: Michael Riordan

Date: 04.24.2015

School: School of Media Sciences

Program: MAAT

1.0 Course Designations and Approval

Required course approval:	Approval Initials	Approval Request Date:	Approval Granted Date:
Program Chair/Graduate Director	MR	04.24.2015	04.24.2015
School Administrative Chair	TC	04.24.2015	04.28.2015
College Curriculum Committee Chair	TC for RC	04.28.2015	04.28.2015

2.0 Course information:

Topic title:	Sustainability in the Graphic Arts
Topic proposed by:	Michael Riordan
Effective term scheduled:	2151

In the sections that follow, please use sub-numbering as appropriate (eg. 3.1, 3.2, etc.)

3.0 Goals of the TOPIC:

- 3.1 To become familiar with current issues related to sustainability in the graphic arts.
- 3.2 To gain an in-depth understanding of the relationship between sustainability, safety, and operations.
- 3.3 To develop strategies for implementing sustainability within graphic arts organizations.

4.0 Course description (course title includes topic)

Course number: MAAT-550

Name of Course – Long Title: Topics in Media Arts, Sciences & Technology

Name of Course & Topic – Short Title (33 characters): Media Art Topic: Sustainability

This course will focus on sustainability from an operational perspective in the context of a graphics arts organization where there is a priority to reuse, repurpose and do more with less. Students will leverage case study examples and detailed documentation from real companies to discover how to manage priorities of sustainability, quality, safety, and the bottom line.

5.0 Possible resources (texts, references, computer packages, etc.)

- 5.1 "Sustainability" [19 pg. handout of text; 16 pgs. of references]
- 5.2 "Greenhouse Gas" [handout]
- 5.3 ISO 14000, ISO 9000, ISO 9001 Standards [handout]
- 5.4 "Sustainability Studies in Print" textbook
- 5.5 Monroe Litho, Rochester, NY Sustainability Initiatives Appendix E
- 5.6 Printing Industries of America White Paper
- 5.7 Sustainable Green Printing Partnership Standard [handout]
- 5.8 Sustainable Green Printing Partnership "SGP Strategist" [handout]
- 5.9 American Society for Quality Conference Presentation, April, 2014
- Monroe Litho, Rochester, NY "Stakeholder Overview: 2009-2013: Environmental Sustainability Milestones" [handout and powerpoint]
- 5.10 OSHA Hazard Communication Standard: To Conform to the Globally Harmonized System of Classification and Labeling Chemicals: NEW Safety Data Sheet [to replace former MSDS Sheets]
- 5.11 Sappi Fine Paper of North America: 2014 Sustainability Report
- 5.12 American Society for Quality, Quality Manager's Handbook
- 5.13 American Society for Quality, Six Sigma Blackbelt [handout]
- 5.14 Printing Industries Press, OSHA Primer

6.0 Topics (outline):

- 6.1 Definitions related the current state of sustainability in graphic arts
 - 6.1.1 Forests
 - 6.1.2 Paper Making Process
 - 6.1.3 Air Emissions
 - 6.1.4 Greenhouse Gas
 - 6.1.5 VOCs: SDS for information [by chemical]
 - 6.1.6 HAPs: SDS for information [by chemical]
 - 6.1.7 Annual Inventory for analysis/continuous improvement
 - 6.1.8 Water
 - 6.1.9 Energy
 - 6.1.10 Coal, Oil, Natural Gas, other fuels
 - 6.1.11 Alternatives
 - 6.1.12 Wind, hydro, solar, bio-thermal, other
 - 6.1.13 Pollution Prevention Awareness/Activities
 - 6.1.14 Impact on natural resources
- 6.2 Sustainability Initiatives
 - 6.2.1 Product
 - 6.2.2 Processes
 - 6.2.3 Envelope [Manufacturing environment/facility]
- 6.3 Quality Initiatives
 - 6.3.1 Definitions
 - 6.3.2 ISO 9000 series for manufacturers [handout]
 - 6.3.3 ISO 14000 series for Environmental Initiatives [handout]
- 6.4 Environmental/Health/Safety Initiatives
 - 6.4.1 Worker Safety
 - 6.4.2 OSHA: What is it?
 - 6.4.3 Government Agencies:
 - 6.4.4 Operating Cost Reduction Comments/ideas for a safe environment
- 6.5 Lean/Six Sigma Manufacturing Initiatives
 - 6.5.1 A Review of Lean/Six Sigma Methodology:
 - 6.5.2 "The DMAIC" Model: Define, Measure, Analyze, Improve, Control
 - 6.5.3 Case Study with related ROI for the integration of Quality, EHS, Sustainability using the tools of quality and Lean Manufacturing for financial benefit
- 6.6 Brainstorming about the "R's": Recycle, Reuse, Repurpose, Reprocess, Rethink
 - 6.6.1 Renegotiation with supply base [materials, chemicals, services]

<p>6.6.2 Paper, ink, chemicals, energy efficient equipment, 6.6.3 Transportation services, delivery routing, sub-contractor 6.6.4 Initiatives [bookbinding], re-usable shipping containers [bulk vs. cartons] 6.6.5 Case study of Examples of these which have a high impact</p> <p>6.7 Sustainability Green Printing Partnership 6.7.1 Review of the Sustainable Green Printing Partnership Standard</p> <p>6.8 Marketing Benefits 6.8.1 Case Studies</p> <p>6.9-A review of Industry Manufacturing Segments</p> <p>6.10-Discussion of the “Uglies” 6.10.1 Forestry practices 6.10.2 Papermaking 6.10.3 Landfills 6.10.4 Rivers/streams 6.10.5 Fuel: Coal 6.10.6 Greenhouse Gas Emissions 6.10.7 VOCs 6.10.8 HAPs 6.10.9 Transportation [Gasoline, diesel fuel]</p> <p>6.11-Environmental Sustainability Leadership 6.11.1 Discussion of company leadership characteristics 6.11.2 Model: Sustainability Team</p>
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7.0 Intended course learning outcomes and associated assessment methods of those outcomes

(please include as many Course Learning Outcomes as appropriate, one outcome and assessment method per row).

Course Learning Outcome	Assessment Method
7.1 Demonstrate critical thinking and application of media sciences related to the topics of the course	Assignment
7.2 Participate in a critical dialog and assessment with both faculty and other students in the course	Assignments
7.3 Integrate media technology and processes using processes and materials relative to the course topic(s).	Assignments

8.0 Program outcomes and/or goals supported by this course

<p>8.1 Students will apply information and technology principles to produce and distribute content accurately and efficiently across print and electronic media. 8.2 Students will apply business principles relevant to developing or growing a business involving print and electronic media. 8.3 Students will analyze industry and technology trends for the strategic purpose of improvement and/or development of products, applications and business models.</p>

10.0 Required Resources - Identify all resources needed to effectively teach this class and what students will need to complete the assignments. (Please provide detailed list of equipment, software, computer lab, data storage/retrieval requirements, special classroom, studio, shop, wet lab, work space or media requirements)

Smart classroom (lecture only)

Approval request date: This is the date that the college curriculum committee forwards this course to the appropriate optional course designation curriculum committee for review. The chair of the college curriculum committee is responsible to fill in this date.

Approval granted date: This is the date the optional course designation curriculum committee approves a course for the requested optional course designation. The chair of the appropriate optional course designation curriculum committee is responsible to fill in this date.