Date of request: 13-DEC-2018

Request ID: A-2018-PAPR-132

College: A

Department: PAPR

Initiator name: Said Abubakr

Initiator email: said.abubakr@wmich.edu

Proposed effective term: 202040

Does course need General Education approval?: Y

Will course be used in teacher education?: N

If 5000 level course, prerequisites apply to: U

Proposed course data:
WES Change Course GPS 1500
Specific Course Change type selected: WMU Essential Studies - Level 2: Exploration and Discovery

1. Existing course prefix and number:
GPS 1500

2. Level 2: Exploration and Discovery
Indicate which course category the course should be placed in:
Laboratory Science

3. Indicate which ONE additional required student learning outcome the course will assess:
(may NOT select category required outcome listed above)
Demonstrate and apply scientific literacy with lab

4. Indicate the first of TWO required student learning outcomes the course will assess:
Develop practices for planetary sustainability

5. Indicate the second of TWO required student learning outcomes the course will assess:
Not Applicable

A. Please choose Yes or No to indicate if this class is a Teacher Education class:
No

B. Please choose the applicable class level:
Undergraduate
C. Please respond Yes if this is a current general education course and/or a course being submitted for the new WMU Essential Studies program. Please respond No if it is neither. Yes

D. Explain briefly and clearly the proposed improvement.
Initial WMU Essential Studies review and approval

E. Rationale. Give your reason(s) for the proposed improvement. (If your proposal includes prerequisites, justify those, too.).
Initial WMU Essential Studies review and approval

F. List the student learning outcomes for the proposed course or the revised or proposed major, minor, or concentration. These are the outcomes that the department will use for future assessments of the course or program.

1. Student will develop and apply scientific literacy with lab. (WMU Essential Studies SLO)
2. Student will develop practices of planetary sustainability. (WMU Essential Studies SLO)
Other program SLO to satisfy accreditations are:
3. Students will demonstrate the ability to use safe work habits in a print shop atmosphere.
4. Students will be able to effectively operate printing equipment. (i.e. duplicators, cutter, drill, processors, bindery equipment etc.) and understand the science behind it.
5. Students will design print advertisement and produce a print job from the small duplicators and produce a screen print job in the lab.

G. Describe how this curriculum change is a response to student learning assessment outcomes that are part of a departmental or college assessment plan or informal assessment activities.
Initial WMU Essential Studies review and approval

H. Effect on other colleges, departments or programs. If consultation with others is required, attach evidence of consultation and support. If objections have been raised, document the resolution. Demonstrate that the program you propose is not a duplication of an existing one.
Initial WMU Essential Studies review and approval

I. Effect on your department’s programs. Show how the proposed change fits with other departmental offerings.
Initial WMU Essential Studies review and approval

J. Effects on enrolled students: are program conflicts avoided? Will your proposal make it easier or harder for students to meet graduation requirements? Can students complete the program in a reasonable time? Show that you have considered scheduling needs and demands on students’ time. If a required course will be offered during summer only, provide a rationale.
Initial WMU Essential Studies review and approval

K. Student or external market demand. What is your anticipated student audience? What evidence of student or market demand or need exists? What is the estimated enrollment? What other factors make your proposal beneficial to students?
Initial WMU Essential Studies review and approval

L. Effects on resources. Explain how your proposal would affect department and University resources, including faculty, equipment, space, technology, and library holdings. Tell how you will staff additions to the program. If more advising will be needed, how will you provide for it? How often will course(s) be offered? What will be the initial one-time costs and the ongoing base-funding costs for the proposed program? (Attach additional pages, as necessary.)
5 sections offered every semester with a capacity of 40 students per section. The course taught by the same one instructor, therefore assessment is the same in all sections. not offered on line

M. With the change from General Education to WMU Essential Studies, this question is no longer used.

For courses requesting approval as a WMU Essential Studies course, a syllabus identifying the student learning outcomes and an action plan for assessing the student learning outcomes must be attached in the Banner Workflow system.
Not Applicable

N. (Undergraduate proposals only) Describe, in detail, how this curriculum change affects transfer articulation for Michigan community colleges. For course changes, include detail on necessary changes to transfer articulation from Michigan community college courses. For new majors or minors, describe transfer guidelines to be developed with Michigan community colleges. For revisions to majors or minors, describe necessary revisions to Michigan community college guidelines. Department chairs should seek assistance from college advising directors or from the admissions office in completing this section.
Initial WMU Essential Studies review and approval

O. Current catalog copy:
Catalog description: An introductory lecture-laboratory course describing the printing industry. Pre-press, Copy preparation, Photo imaging by mechanical and desktop digital systems, Proofing, Presswork and Bindery are components. There will be a comparison of all printing/imaging methods. Relief, Flexography, Gravure, Screen, Lithography and Digital print will be introduced.

P. Proposed catalog copy:
Catalog description: An introductory lecture-laboratory course describing the printing industry. Pre-press, Copy preparation, Photo imaging by mechanical and desktop digital systems, Proofing, Presswork and Bindery are components. There will be a comparison of all printing/imaging methods. Relief, Flexography, Gravure, Screen, Lithography and Digital print will be introduced. This course meets the student learning outcomes in the WMU Essential Studies Level 2 - Exploration and Discovery Laboratory Science Course Category. (4 credits)

Department Curriculum Chair approver: Said Abubakr

Department Curriculum Chair comment: Lab science now addressed
Date: 11-OCT-2019

Department approver: Kecheng Li

Chair comment:

Date: 11-OCT-2019
Western Michigan University
Department of
Chemical and Paper Engineering

GRAPHIC & PRINTING SCIENCE

GPS1500 Introduction to Graphic & Printing Science

Lecture: 1720 Chemistry Bldg, Main Campus T & R 9:30-10:45 a.m.
Laboratory: C220 & C111 Floyd Hall, Parkview Campus
Tuesday 2:30 - 5:20 & 6:30- 9:20 p.m.
Thursday 2:30 - 5:20 & 6:30 - 9:20 p.m.

This course meets the student learning outcomes in the WMU Essential Studies Level 2-Exploration and Discovery / Laboratory Science Category.

Lois Lemon, M.A. A232 Floyd Hall Parkview, lois.lemon@wmich.edu 269 276-3517
Office hours: after lecture & by appointment in A232 Floyd Hall

Text: Required Adams, J. and Dolin, P. 2002 Printing Technology 5E
(Available at bookstore or online)

Supplemental Materials to be provided by student: (You must have these items and bring to lab)
Personal Flash Drive, pen or pencil, notebook.

Catalog description: Western Essential Studies Level 2, Exploration and Discovery Science and Technology with Lab. An introductory lecture-laboratory course describing the printing industry. Pre-press, Copy preparation, Photo imaging and Desktop Digital systems, Proofing, Presswork and Bindery are components. There will be a comparison of all printing/imaging methods. Relief (Flexography), Gravure, Screen, Lithography and Digital print will be introduced. Paper and Ink and Recycle addressed.
No prerequisites or co-requisites required.
Required course in GPS program, otherwise elective. Offered in Fall and Spring

Objectives:
A. To provide the student with related and technical information essential to an understanding of the print/imaging processes.
B. To introduce the student to the tools, materials, equipment, terminology and processes in the five common methods of print and imaging.
C. To provide an opportunity to develop skills and techniques (teamwork) basic to the Graphic and Print industry.
D. To develop in the student an appreciation for fine craftsmanship.
E. To develop in the student proper work habits and safety consciousness. (You will be working with commercially available printing solutions and inks that may contain solvents or other chemicals that could cause adverse health effects. Should you have concerns, please speak to the instructor. Material Safety Data Sheets are available online at www.esem.wmich.edu/msds.htm

Course Learning Outcomes:

1. **Student will demonstrate and apply scientific literacy with Laboratory (WMU Essential Studies SLO)** by recognizing the five common printing methods, their alternate names, inventors of process and how they are used in industry. In addition, students will increase foundational knowledge of contemporary printing science. Learn about PH, Sequence of steps in printing processes, electromagnetic radiation, visual spectrum, color sensitivity and teams and statistical process control.

2. **Student will develop practices for planetary sustainability. (WMU Essential Studies SLO)** by understanding how paper is made, classified, deinked and recycled and reused.
3. Students will demonstrate the ability to use safe work habits in a print shop atmosphere.
4. Students will be able to effectively operate printing equipment. (i.e. duplicators, cutter, drill, processors, bindery equipment etc.) and understand the science behind it.
5. Students will design print advertisement and produce a print job from the small duplicators and produce a screen print job in the lab.

Tentative (may be changed as conditions dictate)

Evaluation: 5 Laboratory projects ------------------------------------------ 50%

<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Project 1 – Computer, InDesign, Nameplate</td>
<td>10%</td>
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<tr>
<td></td>
<td>Project 2 – Magazine Ad</td>
<td>10%</td>
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<tr>
<td></td>
<td>Project 3 – Offset Litho Job (memo pads)</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>Project 4 – Screen Print (on textile i.e. shirt)</td>
<td>10%</td>
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<tr>
<td></td>
<td>Class Project Graphic Arts Notebook</td>
<td>10%</td>
</tr>
</tbody>
</table>

3 Exams (including a comprehensive final) ------------------------ 40%

<table>
<thead>
<tr>
<th>Test</th>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test 1</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>Test 2</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>Test 3 (comprehensive final)</td>
<td>20%</td>
</tr>
</tbody>
</table>

Attendance, Effort and Attitude ---------------------------------- 10%

Lecture prepares the student for lab therefore lecture attendance is important. Since laboratory work consists of hands-on work and observations; attendance is vital. Participation and promptness are components that will be included in the final grade.

Only 3 absences are allowed before a sliding scale will be used to reduce up to 10% of your final grade. Deadlines are very important in the Print/Imaging field, therefore all projects must be turned in on time! Late work may be accepted, but deductions will be made on a case-to-case basis.

Grading Scale:
A 93-100%
BA 88-92%
B 83-87%
CB 78-82%
C 73-77%
DC 68-72%
D 60-67%
E 59% and below

Work Ethics:
All exams and projects must be totally your own work. While you may be working in a group for homework or lab assignments, any written work must be entirely your own, unless the work is assigned as a group project. Plagiarism is the same as cheating and will not be allowed. All students are expected to comply with the WMU Code of Ethics as defined in the student handbook. These policies include cheating, fabrication, falsification and forgery, multiple submission, plagiarism, complicity and computer misuse. Failure to follow these guidelines is cheating and anyone found cheating will be given a failing grade as well as subject to departmental and university actions.
## Western Essential Education
### Exploration and Discovery
#### Laboratory Science

For GPS 1500

<table>
<thead>
<tr>
<th>WMU Essential Studies Student Learning Outcome</th>
<th>Assignments and/or Learning Activities that meet the criteria within the rubric that is aligned with the SLO</th>
<th>When the SLO assessment will take place</th>
</tr>
</thead>
</table>
| **X** Demonstrate and apply scientific literacy with laboratory | Student will understand the five common printing methods, their alternate names, inventors of process and how they are used in industry  
Students will recognize foundational knowledge of contemporary printing science. Learn about PH, Sequence of steps in printing processes, electromagnetic radiation, visual spectrum, color sensitivity and teams and statistical process control. | First and final exam  
By the end of semester |
| **X** Develop practices for planetary sustainability | Students will understand how paper is made, classified, deinked and recycled and reused.  
Students will demonstrate the elements of professional and ethical practice in the printing profession.  
Students will demonstrate their understanding of contemporary environmental and global issues influencing the paper and printing industries. | By end of third quarter  
By end of semester  
By the end of semester |
<table>
<thead>
<tr>
<th>Date</th>
<th>Lecture</th>
<th>Readings</th>
<th>Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 7</td>
<td>Monday-LAB</td>
<td></td>
<td>Tour of Building/Clean-up duties</td>
</tr>
<tr>
<td>Jan. 8</td>
<td>Introduction/Syllabus</td>
<td>Chp. 1</td>
<td>Safety, Folders, InDesign Intro</td>
</tr>
<tr>
<td>Jan. 10</td>
<td>Project Summaries/Printing</td>
<td>Chp. 1</td>
<td></td>
</tr>
<tr>
<td>Jan. 15</td>
<td>Print Industry Overview</td>
<td>Chp. 2</td>
<td>Thumbnail Sketches for Project 1</td>
</tr>
<tr>
<td>Jan. 17</td>
<td>Foundry Type, Letterpress</td>
<td>pp.420-422</td>
<td>InDesign Intro Due at end of lab!</td>
</tr>
<tr>
<td>Jan. 21</td>
<td>No LAB, Monday-MLK DAY</td>
<td>Chp. 3 29-50</td>
<td></td>
</tr>
<tr>
<td>Jan. 22</td>
<td>Basic Design, Typefaces, Printers' Measurements &amp; Terminology</td>
<td>Chp. 3 51-58</td>
<td>Thumbnail Sketches for Project 1</td>
</tr>
<tr>
<td>Jan. 29</td>
<td>Proofreading</td>
<td>Chp. 2 24-25</td>
<td>ART, COPY, Fonts etc. for Project 1</td>
</tr>
<tr>
<td>Jan. 31</td>
<td>Art Copy/Use of Color</td>
<td>Chp.44-46</td>
<td></td>
</tr>
<tr>
<td>Feb. 5</td>
<td>Digital Data</td>
<td>Chp. 7&amp;8 163-65</td>
<td>First Lab Project DUE at end of LAB</td>
</tr>
<tr>
<td>Feb. 7</td>
<td>REVIEW for TEST 1</td>
<td>All of the Above</td>
<td></td>
</tr>
<tr>
<td>Feb. 12</td>
<td>Test 1/ T&amp;F, MC, Fill-in</td>
<td>Chp. 4 59-88</td>
<td>Cutter Demo</td>
</tr>
<tr>
<td>Feb. 14</td>
<td>Go over Test 1 in class</td>
<td>Chp.17 415-418</td>
<td>Project 2</td>
</tr>
<tr>
<td>Feb. 19</td>
<td>Line Photography</td>
<td>Chp. 6 106-138</td>
<td>Project 2</td>
</tr>
<tr>
<td>Feb. 21</td>
<td>Offset Plates/Presses</td>
<td>Chp. 11 222-242</td>
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<tr>
<td>Feb. 26</td>
<td>Offset</td>
<td>Chp.12</td>
<td></td>
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<tr>
<td>Feb 28</td>
<td>Screen</td>
<td>Chp.13</td>
<td></td>
</tr>
<tr>
<td>Mar. 5</td>
<td>Semester Recess</td>
<td>No Lab</td>
<td></td>
</tr>
<tr>
<td>Mar. 7</td>
<td>Semester Recess</td>
<td>No Lab</td>
<td></td>
</tr>
<tr>
<td>Mar. 12</td>
<td>Finish Offset</td>
<td>Chp.12</td>
<td>Project 3</td>
</tr>
<tr>
<td>Mar. 14</td>
<td>REVIEW for TEST 2</td>
<td>Assigned Rdgs.</td>
<td>Project 3</td>
</tr>
<tr>
<td>Mar. 19</td>
<td>TEST 2/ T&amp;F, MC, Fill-in</td>
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<td></td>
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<tr>
<td>Mar. 21</td>
<td>Return &amp; Go over TEST 2</td>
<td></td>
<td></td>
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<tr>
<td>Mar. 26</td>
<td>Paper</td>
<td>Chp.16</td>
<td></td>
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<tr>
<td>Mar. 28</td>
<td>Paper Video</td>
<td></td>
<td></td>
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<tr>
<td>Apr. 2</td>
<td>Ink</td>
<td>Chp.16</td>
<td>Project 3 Notebook</td>
</tr>
<tr>
<td>Apr. 4</td>
<td>Finishing/Converting</td>
<td>Chp. 17</td>
<td></td>
</tr>
<tr>
<td>Apr. 9</td>
<td>Packaging Food Pkg. Video</td>
<td>Pg. 433-434</td>
<td></td>
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<tr>
<td>Apr. 11</td>
<td>Gravure Basics</td>
<td>Chp. 14</td>
<td></td>
</tr>
<tr>
<td>Apr. 16</td>
<td>Flexo/Inkjet&amp;Digital</td>
<td>Chp. 15</td>
<td>GA Notebook Due at end of Lab!</td>
</tr>
<tr>
<td>Apr. 18</td>
<td>REVIEW for FINAL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2 Comprehensive Final Exam - Tuesday, April 23, 10:15-12:15 pm in 1720 Chemistry Bldg.
GA Notebook back, Happy Vacation!