

### ACCF IDMP 490 INDUSTRIAL MATERIALS AND PROCESSES

<b>Program</b>	Three-year course in Design
<b>Course</b>	Industrial Materials and Processes
<b>Credits</b>	3
<b>Professor</b>	Catherine Hamon

<b>Course Description</b>	<p>The objective of this course is to explore the world of industrial production, examining various materials and manufacturing methods that are used to produce objects of design and non. The topics are explained through the projection of technical descriptions and images, which are then further illustrated by the viewing of correlated videos.</p>
<b>Assignments</b>	<ol style="list-style-type: none"> <li>1) The student (in groups of 3) is asked to do research: “<b>Production Processes - a Technical Analysis</b>”. The students will have to do an in-depth study of various industrial production processes and link these processes to products currently on the market. The research is to be documented in digital form (book in PDF, format A3). This assignment should be organized and halfway complete by midterm.</li> <li>2) The student is also asked to keep a <b>classroom notebook</b> with brief, but exhaustive <b>notes</b> of the topics covered in class, accompanied by simple <b>illustrations</b>, which will be evaluated at midterm and at the end of the semester.</li> </ol>
<b>Learning Objectives and Outcomes</b>	<p>The course aims to:</p> <ul style="list-style-type: none"> <li>● provide information on the most common materials in industrial production</li> <li>● provide information on basic industrial production methods</li> <li>● explain how to obtain the desired shape (of an object) from the various processes studied</li> <li>● assign a (group) task to verify the understanding of the subject</li> </ul> <p>At the end of the course the student will be able to:</p> <ul style="list-style-type: none"> <li>● carefully observe objects on the market, from a production point of view, in order to have models from which to draw inspiration</li> <li>● obtain stimuli and knowledge through the critical analysis of existing products, materials and processing technologies</li> <li>● organize and present a book of the research work</li> </ul>

<p><b>Student Assessment</b></p>	<p>The academic grading system is based on a maximum of 30 points with 18/30 as the lowest passing grade. In case of excellence 30 cum laude may be awarded.</p> <p>The student's performance will be graded in thirtieths:</p> <ul style="list-style-type: none"> <li>● Group research: "Production Processes - a Technical Analysis" 60% (18/30)</li> <li>● Classroom Notebook (personal) 40% (12/30)</li> </ul> <p>Cum Laude will be assigned on the following criteria:</p> <ul style="list-style-type: none"> <li>● special skills that exceed the aims of the course</li> </ul> <p>Assessed soft skills:</p> <ul style="list-style-type: none"> <li>● the ability to follow instructions precisely</li> <li>● craftsmanship / attention to details</li> <li>● student attitude: attendance, attention, dialog, effort, autonomy and workflow, meeting deadlines, and improvement</li> </ul> <p>Midterm: Group research: "Production Processes - a Technical Analysis" This task will need to be organized and finished half to midterm</p> <p>Midterm: Personal notebook of class notes (up until this point)</p> <p>Final: Group research: "Production Processes - a Technical Analysis"</p> <p>Final: Personal notebook of class notes (completed)</p> <p>Attendance is mandatory, not less than 80% of the totality of frontal teaching as required by the schedule, with the exclusion of individual study as per Article 10 of Presidential Decree no. 212 of 8 July 2005.</p>
<p><b>Bibliography, Webography, Filmography</b></p>	<p><i>Manufacturing Processes for Design Professionals</i>, Thompson, R. (2007), pub. Thames&amp;Hudson</p> <p><i>The Materials Sourcebook for Design Professionals</i>, Thompson, R. (2017), pub. Thames&amp;Hudson</p> <p><i>Sustainable Materials, Processes and Production</i>, Thompson, R. (2013), pub. Thames&amp;Hudson</p> <p><i>Making It- Manufacturing Techniques for Product Design</i> (2<sup>a</sup> edition), Leteri, C. (2007, 2012), pub. Laurence King publishing</p> <p><i>Woodworking- The Complete Manual</i>, Jackson, A. and Day, D. (1989), pub. Knopf</p>

<b>Required Materials</b>	Notebook, tablet or other device for taking notes in class. Personal computer and software for making a digital presentation (In Design, Keynote, Powerpoint or similar)
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<b>Week 1</b>	<p>Intro: Syllabus and Books / Program &amp; Assignments</p> <p>Course Organization (chapters): Man &amp; Material Metals / Plastic / Wood / Glass &amp; Ceramics</p> <p>Research (assign): “Production Processes - a Technical Analysis”</p> <p>Examples: student research presentations</p> <p>Chapter 1: Man and Material- the prehistory of manufacturing</p>
<b>Week 2</b>	Chapter 2: Metals (intro) Metal casting (the processes)
<b>Week 3</b>	Chapter 2: Metals (intro) Metal casting (the processes)
<b>Week 4</b>	Chapter 2: Metals Metal sheet, tube and profile (the processes)
<b>Week 5</b>	Chapter 2: Metals Metal sheet, tube and profile (the processes)
<b>Week 6</b>	Chapter 2: Metals Metal sheet, tube and profile (the processes)
<b>Week 7</b>	Chapter 3: Plastics (intro) Types of Plastics
<b>Week 8</b>	MID-TERM PRESENTATION
<b>Week 9</b>	Chapter 3: Plastics (intro) Plastic sheet forming (the processes)

<b>Week 10</b>	Chapter 3: Plastics (intro) Plastic sheet forming (the processes)
<b>Week 11</b>	Chapter 3: Plastics (intro) Plastic sheet forming (the processes)
<b>Week 12</b>	Chapter 4: Wood Wood shaping (the processes)
<b>Week 13</b>	Chapter 4: Wood Wood shaping (the processes)
<b>Week 14</b>	Chapter 5: Glass and Ceramics Glass and ceramic shaping (the processes)
<b>Week 15</b>	END-TERM PRESENTATION