

## School of Arts, Design, and Creative Industries

### SYLLABUS

<b>TITLE:</b>	<b>Industrial Design Workshop I</b>
<b>CODE:</b>	IND 210
<b>PREREQUISITE:</b>	IND 205: Three-Dimensional Modeling
<b>CREDITS:</b>	3 credits   45 contact hours   1 term

### DESCRIPTION

In this course students will apply design methods aimed at researching and exploring the form and function of a product. It introduces concepts of ergonomics, semantics, universal design, environmental issues, and user-centered design. Students will work on typologies of projects such as furniture, tools, household items, and jewelry, among others.

### JUSTIFICATION

This is the first course of the group of industrial design workshops that exposes students to communication and product design. Its exercises and class projects provide students with the tools to know and investigate about and with users, their needs and anthropometry.

### COMPETENCES

The course develops the following competences in students:

- **Research and exploration**
- **Communication**
- **Ethical sense and social justice**

### OBJECTIVES

After completion of the course, students will be able to:

1. Know in an integral way the user and their relationship with their products.
2. Recognize problems, identify needs, and validate them in their design proposals.
3. Propose and prototype with the materials that will be used in their products.

## CONTENTS

- I. Design Communication
  - A. 2D drawing
  - B. 3D drawing
- II. Design methodologies
  - A. Universal design
  - B. User-centered design
  - C. Collaborative design
- III. Product Design Considerations
  - A. Research and exploration
  - B. Ergonomics
  - C. Semantics
  - D. Environmental issues
- IV. Prototyping
  - A. Low resolution
  - B. High resolution
  - C. Machines and materials
  - D. Functionality
- V. Design typologies to be worked on in the workshop
  - A. Furniture
  - B. Tools
  - C. Household items
  - D. Functional jewelry and wearables

## METHODOLOGY

The following strategies from the active learning methodology are recommended:

- Project Oriented Learning -**POL**
- Research Based Learning - **RBL**
- Collaborative Learning- **CL**
- Visual and didactic Internet resources
- Talks, conferences, exhibitions

## EVALUATION

Oral presentations	25%
Partial assignments	40%
Final project	30%
Participation	<u>5%</u>
<b>TOTAL</b>	100%

## LEARNING ASSESSMENT

The institutional assessment rubric is applied to the course's core activity.

## BIBLIOGRAPHY

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Carr, H. (2020). *Carve Your Clay: Techniques to Bring the Ceramics Surface to Life* (Illustrated ed.). Quarry Books.

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- Morrison, J., Fukasawa, N., & Hara, K. (2010). *Muji* (1<sup>st</sup> ed.). Rizzoli.
- Nagelberg, S. (2014). *Batch Manufacturing for Ceramics: Models and Molds, from Process to Product* (1<sup>st</sup> ed.). Lulu.com.
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- Orrom, J. (2018). *Chair Anatomy: Design and Construction* (1<sup>st</sup> ed.). Thames & Hudson.
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Rossetti, P. R. (2017). *Universal Design Toolkit: Time-saving ideas, resources, solutions, and guidance for making homes accessible*. Rossetti Enterprises Inc.

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Yanagi, S. (2019). *The Beauty of Everyday Things* (Translation ed.). Penguin Classics.

## **ELECTRONIC RESOURCES**

<http://universaldesign.com/products/>

<http://www.ijdesign.org/index.php/IJDesign/article/view/602/327>

<https://universaldesign.ie/What-is-Universal-Design/>

<https://www.claytimes.com/>

<https://www.core77.com/>

<https://www.designboom.com/>

[https://www.domusweb.it/en/shop/digital\\_archive.html](https://www.domusweb.it/en/shop/digital_archive.html)

<https://www.ganoksin.com/>

<https://www.yankodesign.com/>

## RECOMMENDED RESOURCES

Ashby, M. F., Johnson, K. (2014). *Materials and design: The art and science of material selection in product design*. Elsevier Science & Technology.

<https://www.proquest.com/legacydocview/EBC/5754493?accountid=39118>

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*Journal of Industrial Design and Engineering Graphics*.

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Popescu, D., Gharbi, A., Stefanoiu, D., & Borne, P. (2017). *Process control design for industrial applications*. John Wiley & Sons, Inc.

<https://www.proquest.com/legacydocview/EBC/4843076?accountid=39118>

Rähse, W. (2014). *Industrial product design of solids and liquids: A practical guide*. John Wiley & Sons, Inc.

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Regenesis, G. (2016). *Regenerative development and design: A framework for evolving sustainability*. John Wiley & Sons, Inc.

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## **REASONABLE ACCOMMODATION**

For detailed information on the process and required documentation you should visit the corresponding office. To ensure equal conditions, in compliance with the ADA Act (1990) and the Rehabilitation Act (1973), as amended, any student in need of reasonable accommodation or special assistance must complete the process established by the Vice Presidency for Academic Affairs.

## **ACADEMIC INTEGRITY**

This policy applies to all students enrolled at Universidad del Sagrado Corazón to take courses with or without academic credit. A lack of academic integrity is any act or omission that does not demonstrate the honesty, transparency, and responsibility that should characterize all academic activity. Any student who fails to comply with the Honesty, Fraud, and Plagiarism Policy is exposed to the following sanctions: receive a grade of zero in the evaluation and/or repetition of the assignment in the seminar, a grade of F (\*) in the seminar, suspension, or expulsion as established in the Academic Integrity Policy effective in November 2022.