

OE2106

## VULNERABLE MACHINES



### INSTRUCTOR

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Industrial designer from ULA (Venezuela) and aspiring to Master's degree in Design Studies from CENTRO (Mexico). With more than 18 years of professional experience in product design and with more than 8 years in academic practice. Professor and researcher specialized in advanced digital manufacturing and robotics in CENTRO STEAM Laboratory

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### CO-INSTRUCTOR

**DIEGO TRUJILLO-PISANTY**

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Designer living and working in Mexico City. Master in Arts degree from the Royal College of Art, graduated from the Design Interactions programme (2012). He has worked as a Research Associate in Design at Newcastle University (UK) and as a lecturer and researcher at Centro de Diseño, Cine y Televisión.

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### OVERVIEW

Explore the interaction between human-machine under the hypothesis that the industrial robots are vulnerable and fragile machines. Throughout history and pop culture the idea of robots as superhumans: study, durable, error-free and tireless has been sold to us; however the reality is the opposite. The machine requires assistance or care when in use, frequent maintenance and programming (usually imperative) to actuate.

### OBJECTIVE

- Identify the preconceptions and assumptions about the industrial robots and the machine-human interactions.
- Challenge these assumptions creating new scenarios that provoke debate, reflexion, critical thinking and question the status quo.
- Build ideas based on a questioning approach and not necessarily to find real world solutions.
- Recognize the cross-pollination thinking tools and apply the new metaphors methodology to build new design concepts around the subject.

### METHODOLOGY

Front-load theoretical sessions and seminary practical sessions. Theoretical sessions: - What are industrial robots? - Robot types - Affective computing - Programming paradigms: imperative and affective - Classical design and computational design: John Maeda - What is speculative design Seminary sessions: - Industrial robot selection - Characteristics, preconceptions and assumptions identification - Rethink and redesign human-machine interactions as a care relationship, where the robot is a fragile, vulnerable entity and the human serves as a carer, not a master. - Idea design generation and presentation, using sketches, storyboards, mock-ups, renders, animations or any other expression tool. New Metaphors Dan Lockton methodology implementation. - Team projects review.

### KEYWORDS

Robot Maintenance, Affective Computing, Speculative Design

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