

**CC72M SISTEMAS SOCIO-TECNICOS**  
**(Socio-Technical Systems Design)**  
**05 UD**

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**Requisitos: Autor**

**PROGRAMA :**

**1. Socio-Technical Systems**

Technical system, people, organization and ambient  
Properties of Socio-Technical Systems  
Motivating example: Electronic meeting systems  
Motivating example: Flexible workflow

**2. The Human Factor**

Safety, health and productivity  
Case study: The Three-Mile Island Accident

**3. The Technical Factor**

Utility, quality and Innovation  
Case study: Construct power tools

**4. Requirements fundamentals**

Research approaches  
Conceptual frameworks  
Case definition, sampling and instrumentation  
Ehtnodata and coding  
Case study: The collaborative emergency backpack

**5. Participatory/Collaborative Elicitation Techniques**

Ethnography  
Contextual inquiry  
Genre analysis  
Case study: Genre analysis

**6. Representation issues**

Maps and models  
Context, Concepts, Flows, recurrences, artifacts, cultural and physical maps  
Prototypes, low-fidelity prototypes  
Case study: The limitations of UML

**7. Design processes**

The search for innovation: techniques and tools  
Participatory design  
Scenario based design  
Contextual design  
Case study: Hospital alarm system

## **8. Evaluation and quality control**

The problem with evaluation  
Low-cost evaluation techniques  
Case study: Perceived value

## **9. Theory of design**

Design properties  
Trends in the design process  
Forces: Software Engineering, HCI and CSCW  
Open issues

## **Fundamental bibliography**

- Creative product design, M. Bruce & R. Cooper, Wiley 2000.
- Making Use, J. Carrol, MIT 2000.
- Contextual Design, H. Beyer & K. Holtzblatt, M-K, 1998.
- Requirements Analysis, D. Hay, Pearson, 2003.
- Human Factors in Safety Critical Systems, F. Redmill & J. Rajan, Butterworth Heinemann, 1997.
- Software Process Improvement, S. Zaran, A-W 1998.