On the integration of the Curriculum Initiative on Parallel and Distributed Computing in the Spanish university system

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### Parallelism in CS in Spain

- **Our proposal**
  - First semester: Systems
  - Fifth semester: Comp. Eng.
  - Sixth semester: Comp. Eng.

- **University of Granada**

- **University of La Laguna**

- **Polytechnic University of Valencia**

### Topics of the Curriculum Initiative PDC in the Spanish system

Figs.: represent to what extent each topic is treated in common courses. Green means it's a core topic, yellow is for non-core topics, and red is for a topic not treated. For non-core topics the specialties where the topic is studied more in depth are indicated. In the proposal the topic should be core in those specialties, and for each university the topic is considered as core (C) or non-core (N)

**ARCHITECTURE**

- Taxonomy
- Superscalar
- SIMD/Vector
- Pipelines
- Streams
- MIMD
- Multithreading
- Multicore
- Heterogeneous
  - N-CE
  - N-SE

**ALGORITHMS**

- Cost of computation
- Cost reduction
- Cost tradeoffs
- Scalability
- Model-based notations
- Notes scheduling
- Divide-conquer
- Recursion
- Scan
- Reduction
- Stencil iterations
- Dependencies
- Series-parallel comp.
- Graph embedding
- Communication
- Synchronization
- Sorting
- Selection
- Graph algorithms
- Specialized computations

**CROSS CUTTING**

- Why and what parallelism
- Concurrency
- Non-determinism
- Power
- Locality
- Cluster
- Cloud/grid
- Fog
- Fault tolerance
- Security
- Distributed transactions
- Web search
- Social networking
- Collaborative comp.
- Performance modeling
- Web services
- Pervasive computing
- Mobile computing

**Funding**

This work has been partially supported by the Conselleria de Educación de la Región de Murcia (Fundación Séneca, 08763/PI/08), and by the Ministerio de Ciencia e Innovación (TIN2008-06570-C04).