IMPLEMENTATION OF DIGITAL SIGNAL PROCESSING (IDSP):

ORGANIZATION

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GOALS

• Becoming familiar with system-level issues relevant for the implementation of signal-processing algorithms.
• Knowledge of design flow and design automation tools used.
• Becoming familiar with functional blocks typically used in implementations of signal processing (e.g. CORDIC, FFT)
• Becoming familiar with typical signal-processing algorithms as used in modern multimedia applications.
• Practical design experience.

RECOMMENDED KNOWLEDGE

• From the Master’s program:
  – System-on-Chip Design (191210750) or
  – System-on-Chip Design for Embedded Systems (191211590) or
  – Design of Digital Systems (192130022) or
  – equivalent

• Knowledge of digital signal processing is convenient but not required
COURSE MATERIAL

- Not necessary to buy a book.

- Mainly journal articles, conference papers and book chapters distributed via Blackboard or through the course’s web page with URL:


LECTURES

- 7 lectures of (2 x 45 mins.) on Mondays 6th/7th hour (see WWW page for schedule details).

STUDY LOAD: 5 ECTS (140 hours)

- 7 lectures of 1.5 hours: about 10 hours.
- Studying the written material: about 30 hours.
- Practical projects and homework problems: about 100 hours.

EXAMINATION

- Based on a few small and one larger project around Synopsys tool CoCentric System Studio (see web page) and Bibix tool Arx.

- All projects need to be completed by the end of quarter; see web page for details.

- Students can propose alternatives for projects, especially for the larger final one.

- To be performed in teams of two or alone.

PRACTICAL MATTERS

- The exercises are to be performed on server soc1.ewi.utwente.nl.
  - Login permissions need to be arranged for all students.
  - Enrollment data from Blackboard are used.
  - Late registrants should contact instructor.

- The number of licenses for Synopsys CoCentric System Studio is limited.
  - Do not use the tool longer than necessary and make sure to close tool when stopping work.
  - Check that tools do not continue to run in background (see website).
  - Have some patience and understanding if all licenses are in use.