

# The Second International Timetabling Competition (ITC-2007)

## Curriculum-based Course Timetabling Track

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SSC2007 Scheduling a Scheduling Competition

- 1 University Timetabling Problems
- 2 The 1<sup>st</sup> International Competition (ITC-2002)
- 3 The 2<sup>nd</sup> International Competition (ITC-2007)
  - Novelties, Tracks, & Rules
  - Detailed Description of Track 3 (“our” track)
- 4 Discussion

“Assign teacher/student meetings to timeslots and rooms”

Main categories:

- **Course Timetabling:** weekly schedule of lectures of courses in the classrooms
- **Examination Timetabling:** schedule the final exam of university courses in the classrooms
- **Event/Seminar Timetabling:** weekly schedule of single events in a set of classrooms

# Other timetabling problems (out of the scope of ITC-2007)

- High school timetabling
- Employee timetabling: Nurses, Call centers, ...
- Sport timetabling: Round robin tournaments, ...
- Train timetabling: Scheduling, routing, platforming, ...
- ... (many others)

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- CPU time limit ( $\approx$  10min)

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  - **Compatibility:** Event-room matrix (based on features and room capacity)

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- **Isolated event:** A student has a single event on a day

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Limited impact on the community

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- Opened: **August, 1<sup>st</sup> 2007**, Closes: **January, 25<sup>th</sup> 2008**

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## 2<sup>nd</sup> Competition (2007-08): Track 3, Intro

- Curriculum-based Course Timetabling
- Simplified w.r.t. the real formulation (only to avoid details)
- Real instances from University of Udine, Italy

Hard constraints:

- **Requirements:** Fixed number of lectures of each course
- **Room Occupation:** One lecture per room
- **Conflicts:** Courses with common students or instructor
- **Availabilities:** Professors' requests

Soft constraints (objectives):

- **Room Capacity:** Insufficient seats
- **Minimum working days:** Professors must spread lectures
- **Compactness:** Isolated lectures in the daily schedule of a student
- **RoomStability:** Lectures of a course in different rooms

## 2<sup>nd</sup> Competition: Track 3, Removed Features

- Soft conflicts
- Room availability
- Room too big
- Teachers preferences on rooms and periods
- Double lectures
- Lunch breaks
- Maximum daily student load
- Curriculum compactness (more complex formulation)

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**Thank You!**

Registration to ITC-2007 is still open:  
<http://www.cs.qub.ac.uk/itc2007/>