Discipline MCP5880  
Design, Management and Analysis of Large Databases

**Concentration area:** 5156

**Creation:** 13/04/2017

**Activation:** 13/04/2017

**Credits:** 2

**Workload:**

<table>
<thead>
<tr>
<th>Theory (weekly)</th>
<th>Practice (weekly)</th>
<th>Study (weekly)</th>
<th>Duration</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>6</td>
<td>4</td>
<td>2 weeks</td>
<td>30 hours</td>
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</tbody>
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**Professors:**

Ricardo Mingarini Terra

Omar Asdrubal Vilca Mejia

Michele Salati

**Objectives:**

Cognitive skills: Recognize database research as an area of knowledge and a tool for clinical investigation; Understand the processes and issues involved in database research, namely dataset design, data collection, data cleaning, quality assessment, data mining, and data analysis. Practical skills: At the end of the course, students are expected to design a database in electronic format, derive information, carry out simple analysis, draw clinical conclusions.

**Rationale:**

Healthcare provides us with a huge amount of data. Unfortunately, only a small fraction of all this potential knowledge is actually explored. Large databases, and the science behind them, are the most important instruments for addressing such a prolific field. Therefore, it is paramount that the modern clinical researcher acquire skills to design and implement a database as well as analyze and derive conclusions from its contents.

**Content:**

- Data management process;  
- Database design: dataset and data flow;  
- Issues with the implementation and maintenance of a database;  
- Data cleaning process;  
- Quality assessment: methodology and dimensions;  
- Audit process;  
- Data mining;  
- Data analysis: issues;  
- Turning information into knowledge;  
- Future trends;

**Type of Assessment:**

See observation field

**Notes/Remarks:**
EVALUATION Students grades will be based on the following:
- On-line forum participation: Online problem-based discussions (30%)
- Practical Exercise: database design, data clearing, data mining, data analysis (70%)

Bibliography:

Salati M. Reasons to participate in European Society of Thoracic Surgeons database. J Thorac Dis 2015;7(S2):1112-117

Languages taught:

Portuguese