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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Professors:

Ricardo Mingarini Terra

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: