Course Syllabus

1. Program of Study
   Doctor of Philosophy Programme in Clinical Epidemiology (International Programme)
   Faculty
   Faculty of Medicine Ramathibodi Hospital and Faculty of Graduate Studies

2. Course Code
   RACE 614
   Course Title
   Medical Informatics and Database Management

3. Number of Credits
   2(1-2-3) (Lecture- Practice)

4. Prerequisite
   Basic computer skills: web browsing & searching, sending & receiving of e-mail, handling of files (locating, copying, or deleting).

5. Type of Course
   Required course

6. Session / Academic year
   Semester I / Academic year 2014

7. Conditions
   class size:- minimum 2, maximum 10

8. Course Description
   Medical informatics for clinical research and clinical practice, advanced literature searching, storage and organization of medical information, data management, designing data collection form, construct databases, data quality control, data validation, database dictionary

9. Course Objectives
   At the end of the course, students should be able to:
   9.1 Identify a wide variety of medical information sources, do comprehensive and specific literature searching, and organize a large number of citations.
   9.2 Demonstrate understanding of health professionals’ uses of medical informatics relevance to clinical research including information storage and management; application of internet to health care and research.
   9.3 Describe process of data management, assuring of data quality, and standard in security and privacy of health information.
   9.4 Demonstrate problem solving skills related to research data collection, data management, and assuring of quality.
9.5 Construct database for clinical research with considering data quality control
9.6 Describe process of data cleaning & checking.

10. Course Outline

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<thead>
<tr>
<th>No.</th>
<th>Topics</th>
<th>Instructor</th>
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<tbody>
<tr>
<td>1</td>
<td>Medical Informatics for Clinical practice &amp; research</td>
<td>Asst.Prof.Dr.Chusak Okascharoen</td>
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<tr>
<td>2</td>
<td>Information searching and organization, Basic bibilographic management</td>
<td>Dr.Pawin Numthavaj</td>
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<td>3</td>
<td>Unified Modeling Language (UML)</td>
<td>Dr.Sakda Arj-Ong Vallipakorn</td>
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<td>4-5</td>
<td>Data mining</td>
<td>Asst.Prof.Dr.Sunee Raksakietisak/</td>
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<td>Lect.Ruangsa Trakunphutthirak</td>
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<td>6</td>
<td>Basic concept of data management</td>
<td>Assist.Prof.Dr.Sasivimol Rattanasiri</td>
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<td>7</td>
<td>Create database &amp; Data quality control program</td>
<td>Assist.Prof.Dr.Sasivimol Rattanasiri</td>
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<td>8</td>
<td>Create database for longitudinal study</td>
<td>Assist.Prof.Dr.Sasivimol Rattanasiri</td>
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<td>9</td>
<td>Data cleaning and checking</td>
<td>Assist.Prof.Dr.Sasivimol Rattanasiri</td>
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<td>10</td>
<td>Data Management in advance</td>
<td>Assoc.Prof.Dr.Jaranit Kaewkangwal</td>
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<td>11</td>
<td>Site visit DMU</td>
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<td>12</td>
<td>Final Examination</td>
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Teaching Methods
11.1 Lectures 15 hours
11.2 Practice 33 hours

11. Teaching Media
12.1 PowerPoint presentations
12.2 Computer-based practices with internet access 15 units
12.3 Handouts, exercise questions and quiz

13 Measurement and Evaluation of Student Achievement
13.1 Assignments 60%
   • Assignment I 20%
   • Assignment II 40%
13.2 Final Examination 40%
14 Course Evaluation
14.1 Students give written evaluation at the end of each session.
14.2 Lecturers will be evaluated by peers at least twice in an academic year.

15 References
15.3 Mandl KD, Lee TH. Integrating medical informatics and health services research: the need for dual training at the clinical health systems and policy levels. J Am Med Inform Assoc. 2002;9(2):127-32.

16 Instructors
16.1 Asst.Prof.Dr.Chusak Okascharoen
16.2 Assist.Prof.Dr.Sasivimol Rattanasiri
16.3 Assist.Prof.Dr.Jaranit Kaewkangwal
16.4 Dr.Sakda Arj-Ong Vallipakorn
16.5 Dr.Pawin Numthavaj
16.6 Asst.Prof.Dr.Suneek Raksakietisak
16.7 Lect.Ruangk Trakunphutthirak

17 Course Coordinator
17.1 Asst.Prof.Dr.Chusak Okascharoen
Department of Pediatrics
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17.2 Assist.Prof.Dr.Sasivimol Rattanasiri
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