

## Course syllabus

### TMCD534 Practical Statistic for Clinical Research

#### Academic Year 2016-2018

1. **Institute** Mahidol University  
**Faculty/Department** Faculty of Tropical Medicine, Department of Clinical Tropical Medicine
2. **Course Name:**
  - a. **Course Code:** TMCD 534
  - b. **Course Title:** Practical Statistic for Clinical Research
3. **Number of credits:** 1 (0-2-3)
4. **Programme use:** Master of Clinical Tropical Medicine
5. **Prerequisite:** None
6. **Type of Course:** Elective subject
7. **Condition: class size:** none
8. **Session/Academics year:** The second semester of each academic year

9. **Course description:**

Practical uses in data entry and analysis of various types of variables using appropriate statistical software packages. Statistical analysis for assessing both descriptive statistics and inferential statistics for assessing role of chance or error from sampling. Correlation, linear regression, survival analysis as well as interpretation of the results and data presentation

10. **Course expected learning outcomes:**

- 1) Perform data entry and data analysis using appropriate statistical software
- 2) Distinguish difference data analysis according type variables and data distribution
- 3) Demonstrate statistical analysis for clinical research with data entry, analysis and interpretation results

## 10. Course outline and constructive alignment

Day	Title	Hours			Instructor	Course Learning Outcome	Programme ELOs	Learning Activities	Assessment
		Lecture	Lab	Self-study					
1	SPSS:Menu and command	0	2	1	Assoc Prof Noppadon/Assoc Prof Kesinee/Asst Prof Apichart/ Assoc Prof Benjaluck	1,2	5.1	Practice software SPSS, Q&A	Student participation Discussion
1	Data collection, data file and data input	0	2	1	Assoc Prof Noppadon/Assoc Prof Kesinee/Asst Prof Apichart/ Assoc Prof Benjaluck	1,2	5.1	Practice using statistical software and case record form Q&A	Student participation Discussion
2	Descriptive statistic analysis	0	2	1	Assoc Prof Noppadon/Assoc Prof Kesinee/Asst Prof Apichart/ Assoc Prof Benjaluck	1,2	5.1	Practice using statistical software and case record form	Student participation Discussion
3	Analysis for parametric and nonparametric analysis	0	2	1	Assoc Prof Noppadon/Assoc Prof Kesinee/Asst Prof Apichart/ Assoc Prof Benjaluck	1,2	5.1	Practice using statistical software and case record form	Student participation Discussion
4	Correlation and regression analysis	0	2	1	Assoc Prof Noppadon/Assoc Prof Kesinee/Asst Prof Apichart/ Assoc Prof Benjaluck	1,2	5.1	Practice using statistical software and case record form	Student participation Discussion
5	Survival analysis	0	2	1	Asst Prof Wirichada	1,2	5.1	PowerPoint presentation, Practice using statistical software, Q&A	Student participation Discussion
6	Data input	0	4	2	Thematic paper or Thesis advisory committee	1,2	2.2,3.2	Practice using statistical software and case record form , Q&A	Student participation Discussion
7	Data management	0	3	1.5	Thematic paper or Thesis advisory committee	1,2	2.2,3.2	Practice using statistical software and case record form	Student participation

8	Data analysis (1)	0	5	2.5	Thematic paper or Thesis advisory committee	1,2,3	2.2,3.2	Practice using statistical software and case record form	Student participation Discussion
9	Data analysis (2)	0	5	2.5	Thematic paper or Thesis advisory committee	1,2,3	2.2,3.2	Practice using statistical software and case record form	Student participation Discussion
10	Data presentation	0	1	0.5	Thematic paper or Thesis advisory committee	1,2,3	2.2,3.2,3.3, 5.2	Assignment , PowerPoint presentation, Q&A	Student participation Presentation tool and readiness Data analysis and interpretation Discussion
	<b>Total</b>	<b>0</b>	<b>30</b>	<b>15</b>					

**11. Teaching and Learning Activities**

Practice with desktop or notebook computer one student per one computer with appropriate statistical software. Exercise by each student data file for data input, management and analysis

**12. Teaching media**

Statistical package software  
 Student's case record form  
 Publish paper for review and discussion

**13. Course achievement and evaluation**

Class participation	20%
Activity for data input and data management	20%
Data analysis	30%
Data presentation	30%

**14. Course evaluation**

Discussion and comments session at the end of the course

**15. References**

- 1) Jacques Esteve, Ellen Benhamou, Luc Raymond. Statistical Methods in Cancer Research. Volume IV. Descriptive Epidemiology IARC Scientific Publications No.128 International Agency for Research on Cancer Lyon 1994
- 2) Daly L, Bourke G. Interpretation and uses of medical Statistics 5<sup>th</sup> ed. 2000.
- 3) Armitage P, Berry G, Matthews JNS. Statistical Methods in Medical Research. 4<sup>th</sup> ed. 2001.
- 4) Greenhalgh T. How to read a paper: the basics of evidence-based medicine. 5<sup>th</sup>ed. John Wiley&Sons Ltd; 2014.
- 5) <http://www.graphpad.com>

**16. Instructors:**

Assoc Prof Benjaluck Phonrat  
 Assoc Prof Kesinee Chotivanich  
 Asst Prof Apichart Nontprasert  
 Assoc Prof Noppadon Tangpukdee  
 Asst Prof Wirichada Pan-ngum  
 Staff, Department of Clinical Tropical Medicine, Faculty of Tropical Medicine  
 Staff, Department of Tropical Hygiene, Faculty of Tropical Medicine

**17. Course responsibility:**

Assoc Prof Noppadon Tangpukdee  
 Department of Clinical Tropical Medicine, Faculty of Tropical Medicine, Mahidol University