

Course syllabus

TMCD534 Practical Statistic for Clinical Research

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
	Total	0	30	15					

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 5th ed. 2000.
- 3) Armitage P, Berry G, Matthews JNS. Statistical Methods in Medical Research. 4th ed. 2001.
- 4) Greenhalgh T. How to read a paper: the basics of evidence-based medicine. 5thed. 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