STA 3001 Time Series Analysis
Spring 2021

Classes: Tuesday 18:00-20:45, **TBD** (Online)

Instructor: Changryong Baek
Email: crbaek@skku.edu
Office: Dasan 32410 (**Tel** 760-0602)
Office Hours: By appointment

TA: TBD

Classes: Mostly online classes uploading recorded lectures, but may have some real time streaming classes (such as Q&A sessions) before exams if necessary.

Course description:

- This course provides a general statistical theory and methods for time series analysis. Major topics include preliminary analysis tools for time series analysis and basic theory of stationary time series and popular ARMA model. Focus will be on theoretical side as well as data analysis.

Recommended Prerequisite:

- Good understanding of **regression theory** together with **matrix algebra** and **mathematical statistics** and **statistical inference**. It is your responsibility to take extra time to make-up.

Course Webpage:

- Course webpage is located at "icampus"(http://icampus.skku.edu). Class announcements, homework assignments, etc will be posted here.

Required Textbook:

- *Introduction to Time Series and Forecasting* by Brockwell and Davis. You can get the book from SKKU library via e-book.

Other books on Time Series Analysis:

- *Time Series Analysis: With Applications in R* by Cryer and Chan. Less mathematically demanding textbook on undergraduate level.

- *시계열 분석*, 조신섭, 손영숙, 율곡출판사.

- *시계열 분석 - 이론 및 SAS 실습*, 이상열, 자유아카데미.

- *시계열 자료분석 I*, 박유성, 김기환, 자유아카데미.

Syllabus: Tentatively, we will cover Chapters 1, 2, 3, 5 and 6, and other topics depending on the students' interest.

Attendance:

- University rule requires that you need to participate at least 3/4 of classes.

Homeworks:

- Homework problems will be regularly posted on "icampus" with the solutions. You are not required to return homeworks, but it will be the basis of exams.

Software:

- I will use R most of time. However, you can use other softwares such as ITSM, SAS with your own responsibility.

Exams:

- One comprehensive final is scheduled as below. It is paper-based, asking some theoretical questions.

- Two practice exams requiring real data analysis is scheduled.

Data Analysis Exam I	TBD (in-class)	40%
Data Analysis Exam II	May 25 (in-class)	40%
Final	June 1 (in-class)	20%
Total		100%

Academic misconduct:

- Academic Honesty / Honor Code / Student Code of Conduct will be observed at all times in this course. In case of any academic misconduct, you will get an F and may subject to file on University Judiciaries.

Problems/ Suggestions:

- Each student should feel comfortable approaching the Instructor with any problems s/he has with the course. Please feel free to visit my office during the office hour or e-mail me for any further questions/concerns/suggestions.

Disclaimer:

- Instructor reserves the right to change the syllabus if it is academically advisable and necessary.