2023 학년도/ 1 학기 강의 계획서

강좌명: Climatological Analysis(기후통계분석)
학수번호-분반: GEOG 7080-00 이수구분: 전공선택
개설학과: 지리학 학점: 3
강의시간/강의실: 목 15:00-17:45// 스 627 수업사용언어: 부분영어
교강사명: 이은걸 연구실: 스 626 이메일: eungul.lee@khu.ac.kr
홈페이지:
면담시간: 목 17:45-18:45 (강의후 1 시간) 선수과목:

수업개요: Empirical analysis of observational and reanalysis climate data is a fundamental method in climatology. In the climatological analysis of this course, the climate statistical analysis of correlation, composite difference, and linear regression analysis will be performed using global gridded climate datasets. The statistical analyses using user-friendly and programmable tools will be applied to interpret physical and human problems across the globe.
기후통계를 이용한 경험적 기후자료분석은 기후와 관련된 현상을 연구하기 위하여 필요한 분석기법이다. 본 수업에서는 전구 시공간 격자자료를 이용할 수 있는 다양한 기후프로그램을 습득한다. 사용자 친화적인 프로그램과 코딩에 근거한 프로그램을 이용하여 기후자료분석을 위한 기후통계기법인 상관분석, 합성편차분석, 선형회귀분석 기법을 습득한다. 각자의 연구주제를 정하여 기후통계기법을 이용하여 기후자료를 분석한 후 연구보고서를 작성한다.

수업목표:

- Explain the sources of climatological data and describe their spatial and temporal characteristics.
- Display and analyze climate information using climatological software and statistics.
- Interpret and evaluate a variety of maps and graphs describing climatic elements.
- Apply the climatological data and analysis to their fields of interest.
- Present and discuss climatological ideas and concepts effectively in oral and written forms.

수업유형: 이론강의 (20%), 실험/실습 (60%), 기타(토의) (20%)

수업방법: 토의/토론(o), 팀별발표( ), 개별발표(o), 시청각(o), e-campus 활용(o), 이론강의(o), 실험/실습(o), 유인물(o)

교재 및 참고자료:
(주교재)

- 강의노트

(부교재)

- *Climatology*, Robert T. Rohli and Anthony J. Vega, Jones & Bartlett Learning.
- *Probability & Statistics for Engineers & Scientists*, Ronald E. Walpole, Raymond Myers, Sharon Myers, and Keying Ye, Prentice Hall, 7th ed. The 9th edition is available from the public webpage.

평가항목/평가비율(%):

출석/ 10%
실습보고서(Three Exercises)/ 50%
실습토론(Discussions)/ 10%
학기말보고서(Term paper)/ 30%
Outline/ 5%, Draft/ 5%, Presentation/ 10%, Final paper/ 10%

과제:

1. Exercise #1: Climatology, Correlation, Composite Analysis
2. Exercise #2: Linear regression, Detrended Correlation & Composite Analysis
3. Exercise #3: Point extraction, Grid to grid, Vertical cross section Analysis

Course Schedule

Week	Date	Topic	Related Materials	Assignments
1	3/2	Course introduction/ Term paper topic discussion	Rohli & Vega (Ch.14, p.335-347); Kalnay et al. (1996)	
2	3/9	Lecture: Climatological data: sources, characteristics, and tools/ correlation and composite analysis	Walpole et al. (p.123 & p.430-435) (Ch.9.8: p.285-291)	
3	3/16	**Ex. #1**		
4	3/23	Ex. #1 (Cont.)		
5	3/30	Ex. #1 Discussion		Ex. #1 (**3/30**)
6	4/6	**Ex. #2**		
7	4/13	Ex. #2 (Cont.)		
8	4/20	Mid-term (no class)		
9	4/27	Ex. #2 Discussion		Ex. #2 (**4/27**)
10	5/4	Term paper discussion: Outline		Outline of term paper (**5/4**)
11	5/11	**Ex. #3**		
12	5/18	Ex. #3 (Cont.)		
13	5/25	Ex. #3 Discussion		Ex. #3 (**5/25**)
14	6/1	Term paper discussion: Draft		Draft of term paper (**6/1**)
15	6/8	Preparing final paper and presentation		
16	6/15	***Presentations: Term Paper***		Final paper (**6/16**)
The course schedule may be changed throughout the semester and the changes will be announced in the class.				