BIOL 3000: Biostatistics (Spring 2012)

1. Course Information

- Course number and section: BIOL 3000 (A)
- Course name: Biostatistics
- Hours of credit: 4
- Pre-requisites or co-requisites as listed in university catalogue: (MATH 1113 Minimum Grade: C or MATH 1113 Minimum Grade: C or MATH 1113H Minimum Grade: C) and (BIOL 1107K Minimum Grade: C or BIOL 2XM1 Minimum Grade: C and BIOL 2XML1 Minimum Grade: C) and (BIOL 1108K Minimum Grade: C or BIOL 2XM2 Minimum Grade: C and BIOL 2XML2 Minimum Grade: C) and MATH 2620 Minimum Grade: C
- Classroom location and room number: BC 2022 (for the lecture, 9:00 am - 9:50 am, MW), BC 3018 (for the lab, 10:00-11:50 am, MW)
- Department, College, University: Department of Biology, College of Arts and Sciences, Valdosta State University

2. Instructor Information

- Instructor name: Dr. Jonghoon Kang
- Instructor contact: BC 2217, 229-333-7140, jkang@valdosta.edu
- Instructor office hours: MW 12:45 pm to 1:45 pm

3. Course Description

- An introduction to univariate and multivariate analysis of data. Laboratory work will allow students to collect data typical of the diverse disciplines in biology and subject those data to appropriate biometrical analyses, using a calculator or computer. Students will be required to keep a detailed lab notebook of the statistical methods studied and also complete a term project and a scientific report. Two 2-hour laboratory periods per week.
- Required texts, resources, and materials: "Statistics in Plain English" TC Timothy C. Urdan from Routledge Academic, 3 edition (2010) o

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5. Students will demonstrate knowledge of scientific and mathematical principles and proficiency in laboratory practices. They will understand the basic concepts and principles underlying scientific methodology and be able to collect, analyze, and interpret data. They will learn a body of scientific knowledge and be able to judge the merits of arguments about scientific issues. They will be able

to perform basic algebraic manipulations and to use fundamental algebraic concepts to solve word problems and equations. They will be able to use basic knowledge of statistics to interpret and to analyze data. They will be able to evaluat

7. Schedule of Activities or Assignments, including university scheduled final exam time (all schedule is tentative and may be subject to change)

Date	Class	Lab
1/7	Introduction	Visual presentation of elements: Graph
1/9	Ch 1	Amino acids: Molecular weight, Charge Amino acid explorer
1/14	Ch 1 & 2	Proteins:Biological functions
1/16	Ch2	Proteins:number of amino acids Mean, Median, Mode, RNA pol II.
1/21	MLK day	No lab
1/23	Ch 3	Measures of Variability Field trip (How many years did they work?)
1/28	Ch4	Normal distribution. Protein stability: Statistical features
1/30	Ch 5	z Scores Proteins: Counts of amino acids Protein as a catalyst
2/4	Ch 5	z Scores Statistical features of glycolysis: Distribution of free energy values
2/6	EXAM 1	Statistical features of TCA cycle
2/11	Ch 6	Standard errors Physical chemistry of biological redox reactions
2/13	Ch7	Statistical significance. Statistical feature of the electron transport chain
2/18	Ch 7	els 10 tisms: d 64 a 26 Tst 1[( )] TJ ET 394</MCJ ET BT 1 : S.32 cient6 473 1 3Rep0 1 25t 709 1 j4(d)-4
2/20	Ch8	

8. Classroom Policies

    - Attendance **a**d tardiness: Any absence policy should conform to the university policy. University Attendance Policy from the VSU catalogue: