**College of Micronesia-FSM Course Modification Request Form**

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| Course title and code: MS 150 Statistics | Division: Natural Sciences and Mathematics | Initiator: Dana Lee Ling |
| New course objectives: 1. Perform basic statistical calculations for a single variable up to and including graphical analysis, confidence intervals, hypothesis testing against an expected value, and testing two samples for a difference of means. 2. Perform basic statistical calculations for paired correlated variables. 3. Engage in data exploration and analysis using appropriate statistical techniques including numeric calculations, graphical approaches, and tests. | | |
| New course description: [No change] A one semester course designed as an introduction to the basic ideas of data presentation, descriptive statistics, linear regression, and inferential statistics including confidence intervals and hypothesis testing. Basic concepts are studied using applications from health, education, business, social science, and the natural sciences. The course uses spreadsheet software for both data analysis and presentation. The course includes a focus on the use of computing technologies for statistical problem solving. | | |
| New textbook: [Edition change only] Lee Ling, Dana (2013). *Introduction to Statistics Using LibreOffice.org Calc, OpenOffice.org Calc, and Gnumeric, Edition 5.2*, Pohnpei: College of Micronesia-FSM. Or subsequent editions. | | |
| Justification for revising course: Inclusion of exploratory data analysis | | |
| Decision: | [ ] Approved [ ] Not approved | |
| Comment: | | |
| CAC chair signature: | | Date: |
| Division chair signature: | | Date: |
| VPIA COM-FSM signature: | | Date: |

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| *Official Use Only* |
| New Course Number and Title: |

**College of Micronesia-FSM Course Outline: Cover Page**

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| **1) GENERAL INFORMATION:** | | | |
| COM-FSM address | COM-FSM, PO BOX 159, Pohnpei, Kolonia, FM 96941 | | |
| Course title: MS 150 Statistics | Campus: National | Initiator: Dana Lee Ling | Date: 13 May 2014 |
| Course description: A one semester course designed as an introduction to the basic ideas of data presentation, descriptive statistics, linear regression, and inferential statistics including confidence intervals and hypothesis testing. Basic concepts are studied using applications from health, education, business, social science, and the natural sciences. The course uses spreadsheet software for both data analysis and presentation. The course includes a focus on the use of computing technologies for statistical problem solving. | | | |
| **2) Course hours:** Lecture: 3 Laboratory:  Workshop: TOTAL: 3 | | | |
| Purpose of course | | [ ] Degree requirement [ X ] Degree elective [ ] Certificate [ ] Other | |
| **Prerequisite courses:** ESL 089 and passing any 100 level or higher mathematics course. | | | |
| **3) PLOS OF OTHER PROGRAMS THIS COURSE MEETS:** | | | |
| PLO# | Program | | |
| GE 3.1 | Demonstrate understanding and apply mathematical concepts in problem solving and in day to day activities. | | |
| GE 3.2 | Present and interpret numeric information in graphic forms. | | |
| **CAC chair signature:** | | **Date recommended:** | |
| **VPIA, COM-FSM signature:** | | **DATE approved:** | |

**College of Micronesia-FSM Course Outline Format**

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| **(1) INSTITUTIONAL LEARNING OUTCOMES (ILOs): The student will be able to:** | | | | | | | | |
| [ ] 1. Effective oral communication [ ] 2. Effective written communication [ ] 3. Critical thinking [ X ] 4. Problem solving [ ] 5. Intercultural knowledge and competence [ ] 6. Information literacy [ ] 7. Foundations and skills for life-long learning [ X ] 8. Quantitative reasoning | | | | | | | | |
| **(2) PROGRAM LEARNING OUTCOMES (PLOs):**  Primary program the course serves: General education The student will be able to: | | | | | | | | |
| GE 3.1 | | Demonstrate understanding and apply mathematical concepts in problem solving and in day to day activities. | | | | | | |
| GE 3.2 | | Present and interpret numeric information in graphic forms. | | | | | | |
| **(3) PLOS AND ILOS MATRIX** | | | | | | | | |
| PLOs | ILO1 | ILO2 | ILO3 | ILO4 | ILO5 | ILO6 | ILO7 | ILO8 |
| 1 |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |
| **(4) STUDENT LEARNING OUTCOMES (SLOs) GENERAL: The student will be able to:** | | | | | | | | |
| 1. Perform basic statistical calculations for a single variable up to and including graphical analysis, confidence intervals, hypothesis testing against an expected value, and testing two samples for a difference of means. | | | | | | | | |
| 2. Perform basic statistical calculations for paired correlated variables. | | | | | | | | |
| 3. Engage in data exploration and analysis using appropriate statistical techniques including numeric calculations, graphical approaches, and tests. | | | | | | | | |
| **(5) PLOs AND SLOs MATRIX. I = introduced D = demonstrated M = mastered** | | | | | | | | |
| SLO | PLO1 GE 3.1 | | | | PLO2 GE 3.2 | | | |
| 1 | D | | | | D | | | |
| 2 | D | | | | D | | | |
| 3 | D | | | | D | | | |
| **(1) COURSE CONTENT** 1. Populations and samples  2. Measures of middle and spread  3. Visualizing data  4. Paired data and scatter diagrams  5. Probability  6. Standard error  7. Confidence intervals for the mean  8. Hypothesis testing against a known population mean  9. Hypothesis testing two sample means 10. Data exploration | | | | | | | | |
| **(2) METHOD OF INSTRUCTION** | | | [ X ] Lecture [ ] Laboratory [ ] Audio visual [ X ] Demonstrations | | | [ ] Cooperative [ ] learning groups [ X ] In-class exercises [ ] Other | | |
| **(3) REQUIRED TEXT(S) AND COURSE MATERIALS** | | | Lee Ling, Dana (2013). *Introduction to Statistics Using LibreOffice.org Calc, OpenOffice.org Calc, and Gnumeric, Edition 5.2*, Pohnpei: College of Micronesia-FSM. Or subsequent editions.  scientific calculator. | | | | | |
| **(4) REFERENCE MATERIALS** | | | None. | | | | | |
| **(5) INSTRUCTIONAL COSTS** | | | None | | | | | |
| **(6) EVALUATION** | | | None. | | | | | |
| **(7) CREDIT BY EXAMINATION** | | | None | | | | | |