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

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| Course title and code: SC 130 Physical Science | Division: Natural Sciences and Mathematics | Initiator: Dana Lee Ling |
| New course objectives: 1. Explore physical science systems using scientific methodologies 2. Generate mathematical models for physical science systems and use appropriate mathematical techniques and concepts to obtain quantitative solutions to problems in physical science. 3. Demonstrate basic communication skills by working in groups on laboratory experiments and by writing up the result of experiments, including thoughtful discussion and interpretation of data, in a formal format using spreadsheet and word processing software. | | |
| New course description: [No change] A one semester natural science with laboratory course exploring motion, dynamics, heat, earth sciences, weather, climate, sound, optics, light, electricity, chemistry, and astronomy, with a focus on mathematical models and an emphasis on written communication skills. | | |
| New textbook: [No change, edition update only] [ Lee Ling, Dana (2013). Physical Science, College of Micronesia-FSM, Pohnpei. Fifth or subsequent editions.]  **OR** [ Shipman, Wilson, and Todd (2012). An Introduction to Physical Science. Brooks/Cole, Cengage Learning, 2012. 13th or subsequent editions. AND Abellera, Relinda (2007). Physical Science Laboratory Manual, Relinda Abellera. College of Micronesia-FSM, Pohnpei.] | | |
| Justification for revising course: Required outline update. | | |
| 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: SC 130 Physical Science | Campus: National | Initiator: Dana Lee Ling | Date: 13 May 2014 |
| Course description: [No change] A one semester natural science with laboratory course exploring motion, dynamics, heat, earth sciences, weather, climate, sound, optics, light, electricity, chemistry, and astronomy, with a focus on mathematical models and an emphasis on written communication skills. | | | |
| **2) Course hours:** Lecture: 3 Laboratory: 3 Workshop: TOTAL: 6 | | | |
| Purpose of course | | [ ] Degree requirement [ X ] Degree elective [ ] Certificate [ ] Other | |
| **3) PLOS OF OTHER PROGRAMS THIS COURSE MEETS:** | | | |
| PLO# | Program | | |
| GE 1.1 | Write a clear, well-organized paper using documentation and quantitative tools when appropriate. | | |
| GE 3.2 | Present and interpret numeric information in graphic forms. | | |
| GE 3.4 | Define and explain scientific concepts, principles, and theories of a field of science. | | |
| GE 3.5 | Perform experiments that use scientific methods as part of the inquiry process. | | |
| **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 [ X ] 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 1.1 | | Write a clear, well-organized paper using documentation and quantitative tools when appropriate. | | | | | | |
| GE 3.2 | | Present and interpret numeric information in graphic forms. | | | | | | |
| GE 3.4 | | Define and explain scientific concepts, principles, and theories of a field of science. | | | | | | |
| GE 3.5 | | Perform experiments that use scientific methods as part of the inquiry process. | | | | | | |
| **(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. Explore physical science systems using scientific methodologies | | | | | | | | |
| 2. Generate mathematical models for physical science systems and use appropriate mathematical techniques and concepts to obtain quantitative solutions to problems in physical science. | | | | | | | | |
| 3. Demonstrate basic communication skills by working in groups on laboratory experiments and by writing up the result of experiments, including thoughtful discussion and interpretation of data, in a formal format using spreadsheet and word processing software. | | | | | | | | |
| **(5) PLOs AND SLOs MATRIX. I = introduced D = demonstrated M = mastered** | | | | | | | | |
| SLO | PLO1 GE 1.1 | | PLO2 GE 3.2 | | PLO3 GE 3.4 | | PLO4 GE 3.5 | |
| 1 |  | |  | | I, D | | I, D | |
| 2 |  | | I, D | |  | | I, D | |
| 3 | I, D | |  | |  | | I, D | |
| **(1) COURSE CONTENT** 1. Measurement  2. Motion  3. Momentum and energy  4. Force  5. Temperature and heat  6. Planetary place and time  7. Weather and climate  8. Sound and waves  9. Optics  10. Electricity  11. Chemistry  12. Astronomy  13. Cosmology | | | | | | | | |
| **(2) METHOD OF INSTRUCTION** | | | [ X ] Lecture [ X ] Laboratory [ X ] Audio visual [ X ] Demonstrations | | | [ ] Cooperative [ ] learning groups [ X ] In-class exercises [ ] Other | | |
| **(3) REQUIRED TEXT(S) AND COURSE MATERIALS** | | | [ Lee Ling, Dana (2013). Physical Science, College of Micronesia-FSM, Pohnpei. Fifth or subsequent editions. ]  **OR** [ Shipman, Wilson, and Todd (2012). An Introduction to Physical Science. Brooks/Cole, Cengage Learning, 2012. 13th or subsequent editions. AND Abellera, Relinda (2007). Physical Science Laboratory Manual, Relinda Abellera. College of Micronesia-FSM, Pohnpei.] scientific calculator. | | | | | |
| **(4) REFERENCE MATERIALS** | | | None. | | | | | |
| **(5) INSTRUCTIONAL COSTS** | | | Laboratory equipment, supplies | | | | | |
| **(6) EVALUATION** | | | None. | | | | | |
| **(7) CREDIT BY EXAMINATION** | | | None | | | | | |