



Course Description

Subject: Science 5

Code: SC23101

Periods: 60

Credit: 1.5

Class: Secondary 3A-B

Semester: 1 / 2014

Instructor: Hearlfe Diana and Akanut Kankornsurapanee

Unit	Standard	Indicators
<p>1. Heredity</p> <p>1. Traits and Heredity Unit (LOCAL)</p> <p>2. Inheritance of Traits (ASEAN)</p> <p>3. Genetic Disorders (ASEAN)</p> <p>4. Application of the Knowledge of Heredity (BOTANY)</p>	<p>SC1.2</p> <p>SC1.2</p> <p>SC1.2</p> <p>SC1.2</p>	<p>M3/1 Explain the characteristics of chromosomes.</p> <p>M3/2 Transmitting genetic characteristics.</p> <p>M3/3 Discuss genetic diseases from abnormality of genes and chromosomes.</p> <p>M3/6 Explain effects of biotechnology on living of human.</p>
<p>2. Biodiversity</p> <p>1. Interdependence among Living Organisms (LOCAL)</p> <p>2. Interactions between Living Organisms (ASEAN)</p> <p>3. Nutrient Cycles (ASEAN)</p> <p>4. Environmental Issues (ASEAN)</p> <p>5. Ecosystem and Balance (LOCAL)</p> <p>6. Thai Herbs (LOCAL)</p> <p>7. Project of King (LOCAL)</p>	<p>SC2.1</p> <p>SC2.1</p> <p>SC2.1</p> <p>SC2.1</p> <p>SC2.2</p>	<p>M3/1 Explore various ecosystems in the local area and explain relationships of the components within the ecosystem.</p> <p>M3/2 Analyze and explain relationship of energy transmission in living things in term of food chain and food web.</p> <p>M3/3 Explain water and carbon cycles and their importance to the ecosystem.</p> <p>M3/4 Explain the factors affecting change in size of population in the ecosystem.</p> <p>M3/4 Analyze and explain utilization of natural resources in terms of the Sufficiency Economy Philosophy.</p>

Unit	Standard	Indicators
3. Force and Motion		
1. Acceleration (ASEAN)	SC4.1	M3/1 Explain acceleration.
2. Action and Reaction Forces (LOCAL)	SC4.1	M3/2 Explain actionary and reactionary forces.
3. Buoyant Forces and Liquid (ASEAN)	SC4.1	M3/3 Explain buoyant forces acting on liquid.
4. Static Friction and Kinetic Friction (LOCAL)	SC4.2	M3/1 Explain differences between static friction and forces.
5. Moment of Force (LOCAL)	SC4.2	M3/2 Explain moment of force.
6. Motions of Objects (ASEAN)	SC4.2	M3/3 Observe motions of objects in a straight line and in curves.

Measurement and Evaluation

Total 100 marks (Assessment 60 marks: Midterm test / Final test 40 marks)

Measurement and Evaluation	Evaluation Method	Assessment tool	Marks	Standard / Indicators
1. Pre-midterm	Oral participation, Homework, Laboratory Activity, Quiz, Unit Test, Project	Teacher Review, Notebook, Experiment Paper, Test Paper, Project	25	SC1.2 M3/1-3 SC1.2 M3/6 SC2.1 M3/1-4 SC2.2 M3/4
2. Midterm test	Midterm Examination	Test Paper	20	SC8.1 M3/1 SC1.2 M3/1-3 SC1.2 M3/6 SC2.1 M3/1-4 SC2.2 M3/4

Measurement and Evaluation	Evaluation Method	Assessment tool	Marks	Standard / Indicators
3. Post-midterm	Oral participation, Homework, Laboratory Activity, Quizzes, Unit Test, Project	Teacher Review, Notebook, Experiment Paper, Testpaper, Project (presentation)	25	SC4.1 M3/1-3 SC4.2 M3/1-3
4. Final test	Final Examination	Test Paper	20	SC4.1 M3/1-3 SC4.2 M3/1-3
5. Desirable Characteristics	Love of nation, religion and king Honesty and integrity Self-discipline Avidity for learning Observance of principles of Sufficiency Economy Philosophy in one's way of life Dedication and commitment to work Cherishing Thai-ness. Public-mindedness Awareness of drugs and vice. Assertive leadership.	Behavior	10	
6. Competencies	Communication capacity Thinking capacity Problem-solving capacity Capacity for applying life skills Capacity for technological application	Students	-	



Course Description

Subject: Science 6

Code: SC23102

Periods: 60

Credit: 1.5

Class: Secondary 3A-B

Semester: 2 / 2014

Instructor: Hearlfe Diana and Akanut Kankornsurapanee

Unit	Standard	Indicators
4. Energy 1 Forms of Energy (ASEAN) 2 Energy Changes (ASEAN) 3 Electricity (ASEAN) 4 Measuring Electricity (LOCAL) 5 Current, Voltage and Resistance (ASEAN) 6 Electronic Circuits (ASEAN) 7 Cost of Electrical Energy (LOCAL) 8 Importance of Safety Precautions in the Use of Electricity (LOCAL)	SC5.1 SC5.1 SC5.1 SC5.1 SC5.1	M3/1 Explain kinetic, gravitational potential energy and elastic potential energy. M3/3 Calculate electrical energy of electric appliances. M3/2 Explain relationship between potential difference, electrical current and resistance. M3/5 Explain resistors and connecting basic electronic circuits with transistors. M3/4 Discuss correct, safe and economical of electrical circuits at home.
5. Astronomy 1 Planets (ASEAN) 2 Asteroids, Comets and Meteoroids (ASEAN) 3 Sun-Earth-Moon (ASEAN) 4 Stars and Galaxies (ASEAN) 5 The Existence of Universe (ASEAN) 6 Astronomy and Space Exploration (ASEAN)	SC7.1 SC7.1 SC7.1 SC7.2	M3/2 Explain the components of the universe, galaxies and the solar system M3/1 Search for relevant information and explain relationships between the sun, Earth and moon. M3/2 Specify position of constellations. M3/1 Discuss process of utilizing space technology for exploration of space, objects in the sky, weather conditions, natural resources for agriculture and communication.

Measurement and Evaluation

Total 100 marks (Assessment 60 marks: Midterm test / Final test 40 marks)

Measurement and Evaluation	Evaluation Method	Assessment tool	Marks	Standard / Indicators
1. Pre-midterm	Oral participation, Homework, Laboratory Activity, Quizzes, Unit Test, Project	Teacher Review, Notebook, Experiment Paper, Testpaper, Project (presentation)	25	SC4.1 M3/1-3 SC4.1 M3/4
2. Midterm test	Midterm Examination	Test Paper	20	SC4.1 M3/1-3 SC4.1 M3/4
3. Post-midterm	Oral participation, Homework, Laboratory Activity, Quizzes, Unit Test, Project	Teacher Review, Notebook, Experiment Paper, Testpaper, Project (presentation)	25	SC7.1 M3/1- SC7.2 M3/1
4. Final test	Final Examination	Test Paper	20	SC7.1 M3/1- SC7.2 M3/1
5. Desirable Characteristics	Love of nation, religion and king Honesty and integrity Self-discipline Avidity for learning Observance of principles of Sufficiency Economy Philosophy in one's way of life Dedication and commitment to work Cherishing Thai-ness. Public-mindedness Awareness of drugs and vice. Assertive leadership.	Behavior	10	-

Measurement and Evaluation	Evaluation Method	Assessment tool	Marks	Standard / Indicators
6. Competencies	Communication capacity Thinking capacity Problem-solving capacity Capacity for applying life skills Capacity for technological application	Students	-	-