


 FPMIPA UPI	SILABUS	No. Dok. : FPMIPA-SE-SL-4
	Fundamental of Biology SE 204 – 3 credits 1st semester IPSE	Revisi : 00 Tanggal : 1 Oktober 2010 Halaman : 1 dari 2
Dibuat Oleh :  (Dr. Sri Anggraeni)	Diperiksa Oleh :  (Dr. Diana R.)	Disetujui Oleh :  (Dr. phil. Ari Widodo)

Description

Fundamental of biology is one of general science course, designed to be the equivalent of a one-semester college introductory biology course taken by students of International Program on Science Education. Introduction of fundamental concepts of cell structure and function, biodiversity, metabolism, organism structure and function, genetics and heredity, ecosystem and conservation and evolution. Class activities will include discussion and problem solving. The assignments are consisted of inquiry to various source of literature and report of discussion as well as observation activities. Main resources of this course are: Campbell, N.A., Reece, J.B., and Michell, L.G.(2005). *Biology: Concepts and Connection*; Campbell, N.A., and Reece, J. B. (2007). *Biology with Mastering Biology*.

Syllabus

1. Course Identity

- | | |
|-------------------|---|
| a. Name | : Fundamental of Biology |
| b. Code | : SE 204 |
| c. Credit(s) | : 3 |
| d. Grade | : 1 st of grade, on 1 st semester |
| e. Classification | : General Science Courses |
| f. Program | : IPSE-FPMIPA UPI/S-1 |
| g. Statue | : Compulsory |
| h. Prerequisite | : - |
| i. Lecturer | : Rini Solihat, S.Pd., M.Si |

2. Goal


Upon completion of the course students should have a profound understanding of the fundamental concepts and basic knowledge of biology. It is hope that with the information acquired from this course students will be enabled to make responsibility decisions and choices in their daily life.

3. Content

This project- and inquiry-based course will allow students to generate knowledge about biology via textbook and online readings, synchronous and asynchronous discussion with other students and with the lecturer, interaction with online tutorials and animations, and development of a semester project.

4. Learning Activities

OHP & OHT, animation, internet, power point and LCD.

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5. Assessment

Informal assessment will include an evaluation of the quality and timeliness of participation in class activities. Formal assessment will involve multiple-choice quizzes and written assignments, in the middle and end of semester. The assignments consist of inquiry to various source of literature and report of discussion as well as observation activities. Assesment could also change due to lecturer's policy.

6. Meeting's Agenda

- 1st meeting : Introduction : The Science of Biology
- 2nd meeting : The chemistry of life
- 3rd : Cell Structure and Function
- 4th : Biodiversity
- 5th : Mendel and the gene idea
- 6th : Meiosis and sexual life of cell, chromosomal basic of inheritance
- 7th : Metabolism 1: Anabolism
- 8th : Metabolism 2: Catabolism
- 9th : Evaluation (test unit 1)
- 10th : Nutrition and transport of plant
- 11th : Introduction to animal structure & function; Plant structure and growth
- 12th : Systems in Animals I (nutrition, digestive and cardiovascular systems)
- 13th : Systems in Animals (respiratory, excretory, endocrine)
- 14th : Neural System and Endocrine
- 15th : Ecology (Ecosystem and Conservation)
- 16th : Evolution
- 17th : Final Test

7. References

- Campbell, N.A., Reece, J.B., and Michell, L.G.(2005). *Biology: Concepts and Connection*, sixth edition. Illinois: Addison Wesley longman, inc.
- Campbell, N.A., and Reece, J. B. (2007). *Biology with Mastering Biology*. Eight edition. Illinois: Benyamin Cumming
- Schmidt-Nielsen K, (1997). *Animal Physiology: Adaptation and Environment*. 5th ed. Cambridge University Press.
- Smith, R.L, and Smith, T.M. (1998). *Element of Ecology*. 4th ed. CA-Benjamin/ Cummings.