

**RKBM**

**BIOLOGY EDUCATION**

Syllabi, Lesson Plan, Learning Contract, Learning Materials, and Asessment

Faculty : FMIPA UNY

Study Program : Pendidikan Biologi

Course/Code : Biology Education/Bio4302

Credit : 3 sks (2 T, 1 P)

Semester /Term : 4

Prerequisite : General Biology

Professor : Dr. Slamet Suyanto, M. Ed.

**biology education department**

**FACULTY OF MATHEMATICS AND natural SCIENCE**

**STATE UNIVERSITY OF YOGYAKARTA**

**2010**

**SYLLABUS**

1. **Course Identity**

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1. **Course Description**:

The Biology Education Course (Bio4302) is a core subjects to biology teacher education program. This course is intended to educate the students to become professional biology teachers. Students are expected to develop undertanding and competences on using students characteristics for optimize their learning, identifying the objects and phenomena that are potential to learning biology, identifying the roles of teachers and students, the use of ICT, motivation techniques, learning strategies, and assessment in biology instruction.

1. **Standard of competence**:
   1. Understanding the characteristics of the learners.
   2. Understanding the objects and phenomena of biology and how to use them in learning biology.
   3. Understanding the roles of biology teachers and students in biology instruction.
   4. Understanding interaction strategies in biology instruction.
   5. Comprehending teahcniques in motivating and optimizing students’ learning biology.
   6. Coprehending the use of a computer, media, and natural objects in biology instruction.
   7. Comprehending techniques in evaluating and assessing students’ learning.
2. **Activity Outline** :

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Meeting | Competence | Topic | Strategy | Reference |
| I, II | Understanding the characteristics of the learners. | The characteristics of the learners (instrinsic & extrinsic motivation, learning styles, multiple intelligences, etc.) | Observing students in schools, reading articles on the characteristics of students, learning styles, and multiple intelligences theory | Handbook for beginning teachers (p. 17-26) |
| III, IV | Understanding the objects of biology and Biology Education | The objects of biology and Biology Education | investigate the potential objects, phenomena, and places to learn biology and biology Education | BSCS green version (p.14-19) |
| V, VI | Understanding the roles of biology teachers in biology instruction. | The roles of biology teachers | Watch a video of biology class & Interview with biology teachers | Becoming science teachers (17-29)  Handbook for beginningteachers (115-307) |
| VII | Midterm-test | Topic I- | III |  |
| VIII-IX | Understanding interaction strategies between the learners and the objects of biology. | Learning biology: strategies, models, and methods | Watch a video of biology inetsruction and observe learning biology in schools, reading, discussion | BSCS green version (p.54-59) |
| X-XI | Comprehending teahcniques in motivating and optimizing students’ learning biology. | Motivation, Memory,  Accelerated learning | Reading, Discussion, Presentation | Quantum Learning (327-340) |
| XII-XIII | Coprehending the use of a computer and media in biology instruction. | ICT, Multimedia, Games, Natural phenomena | Individual project, presentation | Handbook for beginning teachers (153-195) |
| XIV-XV | Comprehending techniques in evaluating and assessing students’ learning. | Evaluation  Assessment | Reading, simulation | Handbook for beginning teachers (153-195) |
| XVI | Final Exam | Topic IV- | VII |  |

1. **Asignment:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Asignment** | **Assign date** | **Due date** | **Worth (%)** |
| 1. Observation report: Characteristics of students | 1-9-2010 | 30-9-2010 | 20 |
| 1. Modeling of the roles of a biology teachers | 1-10-2010 | 30-10-2010 | 20 |
| 1. Games or multmedia in biology (an individual poject) | 1-12-2010 | 10-12-2010 | 20 |
| 1. Midterm examination | 16-10-2010 | 1-11-2010 | 20 |
| 1. Final examination | 29-12-2010 | 14-1-2011 | 20 |
| Total worth | | | 100 |

1. **References:**

**Compulsory:**

BSCS (2006). *Biological Science Curiculum Study*. North Carolina: BSCS.

DePoter, Bobbi and Mike Hernaki (2001). Quantum Learning. Terjemahan Alwiyah abdurahman. Bandung: Mizan Media Utama.

Marsh, Collin. (1996). Handbook for Beginning Teachers. South Melbourne, Australia: Longman.

More, Kenneth D. (2005). *Effective Instructional Strategies*. Thousand Oaks, California: Sage Publications.

**Additional reading**:

Funk, J. H.; Okey, J. R.; Fiei, R. L.; Jaus, H. H.; Spraque, C. S. (1998). *Learning Science Process Skills*. Oxford: Kendal Hunt Publishing Co.

Gagne, R., Briggs, L. & Wa ger, W. (1992). *Principles of Instructional Design* (4th Ed.). Fort Worth, TX: HBJ College Publishers

Bruner, J. (1996). *The process of education*. Cambridge, MA: Harvard University Press. Jacobs, H. H. (1997). *Mapping the big picture: Integrating curriculum and assessment K-12*. Alexandria, VA: Association for Supervision and Curriculum Development.

1. **Evaluation:**

Process and product : 60%

Mid-term test : 20%

Final exam : 20%