



**JOGJAKARTA STATE UNIVERSITY**  
**FACULTY OF MATHEMATICS AND SCIENCE**

**LESSON PLAN 2**

**FRM/FMIPA/062-01**  
**18 February 2012**

1. Faculty /Study Program : Mathematics and Science / Biology Education
2. Course / Code : BIC 223
3. Credits : 2
4. Semester and Duration : IV , 100 minutes
5. Basic competence : Carry out artificial hybridization of the yard-long bean plant and study the genotype and phenotype in the parents and the F1 generation
6. Achievement indicator :
  - a. Students are able to carry out artificial hybridization on yard-long bean
  - b. Students are able to explain the differences in the two parents used for the hybridization
  - c. Students are able to produce an F1 generation from the cross and find the method of inheritance/dominance of several characters
7. Topics / Sub-topics : Monohybrid cross on the Yard-long bean plant (*Vigna unguiculata* subsp. *Sesquipedalis*)
8. Lecture activity :

Activity	Details of activity	Duration	Method	Media	References
Introduction	<ul style="list-style-type: none"><li>• Pretest to find out the preparation of the students</li></ul>	10 minutes	Short essay test	Paper	3,5,8
Main Presentation	<ul style="list-style-type: none"><li>• General explanation on the hybridization, morphology character of the bean, and the parental and F1 characters</li></ul>	15 minutes	Lecture	Whiteboard	

	needed to be observed <ul style="list-style-type: none"> <li>Practical session</li> </ul>	60 minutes	Practical	Yard-long bean plant	
Closing	<ul style="list-style-type: none"> <li>Explanation on how to look after the plant and observation needed for the data</li> </ul>	10 minutes	Lecture	Whiteboard	
Follow up	<ul style="list-style-type: none"> <li>Assignment : artificial cross of the bean plant outside the practical session</li> </ul>	5 minutes	Lecture	Whiteboard	

## 9. Evaluation

Questions :

- 1) How many characters can differentiate the two parents of yard-long bean plant that are used ?
- 2) Does the parents used must be pure lines such as used by Mendel ?
- 3) What are your conclusion on the F1 seeds and are the results the same for all crosses ?
- 4) A reciprocal cross has been done on this practical. What is a reciprocal cross ?

Yogyakarta, February 2012

Head of Departement  
Biology Education Department

Lecturer

Dr. Slamet Suyanto  
NIP 19620702 199101 1 001

Paramita Cahyaningrum K., M.Sc.  
NIP 19781022 201210 2 001

