

## Aquaculture Genetics

Module name		<i>Aquaculture Genetics</i>				
Module level		4 <sup>th</sup> year of Bachelor program				
Abbreviation, if applicable		-				
Sub-heading, if applicable		-				
Courses included in the module, if applicable		BI4210 Aquaculture Genetics				
Semester/term		7 <sup>th</sup> – 8 <sup>th</sup> Semester				
Module coordinator(s)		Dr. Adi Pancoro				
Lecturer(s)		Dr. Adi Pancoro				
Language		Indonesian				
Classification within the Curriculum		Elective courses for Bachelor Program in Biology				
Teaching format/ class hours per week during the semester		Lecture (face to face teaching): 2 x 1 hour x 12 weeks Assignment: Student class presentation/group: 2 hours x 2 weeks Quizzes: 15 minutes x 8 weeks				
Workload	Total Workload	96 hours; 2 CU				
		Face to face teaching	Structured Activities	Independent study	Exam	Total
	Lecture	28	32	32	4	96
Credit points		<i>Aquaculture Genetics (2 Credits)</i>				
Requirements		-				
Content		<ol style="list-style-type: none"> <li>1. Introduction: What is aquaculture genetics,</li> <li>2. gene action for the qualitative and quantitative properties,</li> <li>3. selection and heritability,</li> <li>4. inbreeding, crossbreeding and hybridization,</li> <li>5. Genetics chromosomal sex determination and control,</li> <li>6. control and induction of maturation and spawning,</li> <li>7. aquatic species genome,</li> <li>8. molecular markers and molecular breeding of aquatic species,</li> <li>9. statistical analysis for aquaculture genetics,</li> <li>10. DNA vaccine applications in aquaculture,</li> <li>11. biotechnology for aquatic species.</li> </ol>				
Learning goals/competencies		<ul style="list-style-type: none"> <li>• students are able to explain concept and methodology in aquaculture genetic</li> <li>• students are able to explain application of conventional and molecular genetics for the improvement of aquatic species.</li> </ul>				
Study/exam achievements		Midterm exam	Final exam	Assignment	Total	
		35%	55%	10%	100%	
Forms of media		<i>Classical teaching tools:</i>		<i>White board, power point presentation</i>		
		<i>Digital teaching tools:</i>		<i>Video/CD, Website</i>		
Literature		<ol style="list-style-type: none"> <li>1. Greg Lutz. Practical Genetics for Aquaculture. Blackwell Science. 2001.</li> <li>2. Didier Montet and Ramesh C. Ray (editors). Aquaculture microbiology and Biotechnology, Science Publishers, 2009.</li> <li>3. Balding D.J., M. Bishop and C. Cannings. Handbook of statistical genetics. Third edition. Wiley, 2007.</li> </ol>				