Doctor of Philosophy Programs

Academic Programme Title	University compulsory requirements	Faculty compulsory requirements	Compulsory program requirements		Optional Program Requirements	Total credit hours
			Coursec	Graduation project		
Aquaculture	2	4	12	12	12	42
Aquatic products Processing & Preservation	2	4	12	12	12	42
Aquaculture Biotechnology	2	4	12	12	12	42

Study plan for university requirements

Credit hours	Hourse				Course name	Course code
	Total	Lab	Practical	lecture		
Compulsory courses						**2 Credit hours**
2	2	0	0	2	**Food policy**	**110301**

Study plan for college requirements

PhD requirements:

Credit hours	Hourse				Course name	Course code
	Total	Lab	Practical	lecture		
Compulsory courses						**4 Credit hours**
2	3	0	2	1	**Writing and international publishing skills**	**110302**
2	2	0	0	2	**Sustainable management of water resources**	**110303**

Study plan for doctoral programs

1-Aquaculture:

Course title	lecture	Practical	Credit hours	Course code
PhD - compulsory courses				
Endocrinology	2	2	3	**111301**
Nutrition and Energy	2	2	3	**111302**
Molecular biology	2	2	3	**111303**
Computer and its Application in Fisheries	2	2	3	**111304**
PhD - elective courses (select 4 courses)				
Nanotechnology Applications in Aquaculture	2	2	3	**111305**
Marine Larviculture	2	2	3	**111306**
Formulation of Aquatic Diets – advanced	2	2	3	**111307**
Physiology of fish diseases	2	2	3	**111308**
Physiology of aquaculture digestion	2	2	3	**111309**
Invertebrates physiology- advanced	2	2	3	**111310**
Water quality management – advanced	2	2	3	**111311**
Crustacean diseases - advanced	2	2	3	**111312**
Fish parasitology – advanced	2	2	3	**111313**
Zoonotic diseases in aquaculture	2	2	3	**111314**
Aquaculture Economics and Marketing	2	2	3	**111315**

2-Aquatic products Processing & Preservation:

Course title	lecture	Practical	Credit hours	Course code
PhD - compulsory courses				
Safety evaluation of fisheries products	2	2	3	**112301**
Nanotechnology applications in fish processing	2	2	3	**112302**
Foodborne toxins and contaminants	2	2	3	**112303**
Marine nutraceuticals and functional foods	2	2	3	**112304**
PhD - elective courses (select 4 courses)				
Biotechnology in fish processing	2	2	3	**112305**
Fish handling & transportation- advanced	2	2	3	**112306**
Consumer preferences and advertising technology	2	2	3	**112307**
Fisheries wastes processing technology	2	2	3	**112308**
Bacterial and fungal toxicology	2	2	3	**112309**
Fish cooling and freezing systems	2	2	3	**112310**
Biotechnology applications in fish nutrition	2	2	3	**112311**
Computer and its Application in Fisheries	2	2	3	**112312**
Fishing technology	2	2	3	**112313**

3-*Aquaculture Biotechnology:*

Course title	lecture	Practical	Credit hours	Course code
PhD - compulsory courses				
Genetic improvement of fish	2	2	3	**112305**
Molecular biology and bioinformatics	2	2	3	**112306**
Molecular biotechnology	2	2	3	**112307**
Microbial biotechnology	2	2	3	**112308**
PhD - elective courses (select 4 courses)				
Genetic improvement of crustaceans	2	2	3	**112314**
Fungal biotechnology	2	2	3	**112315**
Aquaculture genetics and biotechnology	2	2	3	**112316**
Biotechnology applications in fish nutrition	2	2	3	**112317**
Computer and its Application in Fisheries	2	2	3	**112318**
Techniques in Genetic Engineering	2	2	3	**112319**
Biological control of Fish pathogens	2	2	3	**112320**
Bioeconomics	2	2	3	**112321**