

Department of
Marine Fisheries Technology and
Management





Contact

DEPARTMENT OF MARINE FISHERIES TECHNOLOGY AND MANAGEMENT (MFTM)

FACULTY OF FISHERIES AND MARINE SCIENCE

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The Department of Marine Fisheries Technology and Management (MFTM) is one of the Departments in the Faculty of Fisheries and Marine Science, Bogor Agricultural University (BAU). Its existence is based on the need for the development of science, technology and art within the scope of fisheries resources utilization in Indonesia, where fisheries resources is one of the primadonnas in this country.



The department is the result of the development of Marine Fisheries Department within the Faculty of Veterinary Medicine University of Indonesia in 1960 in Bogor. Establishment of Bogor Agricultural University in 1963 coupled with the establishment of the Faculty of Fisheries, where Marine Fisheries Department became one of its parts. In its development, this department changed its name several times before becoming the Department of MFTM as today.

The department carries out the mandate to develop the fisheries sector. This field is specific and a necessity in the management and utilization of fisheries and marine resources of Indonesia. Fishing technology is applied from



About Department of Marine Fisheries Technology and management (MFTM)

the various disciplines of science. Those disciplines are textile technology, hydrodynamics, mechanical engineering, naval architecture, electronic and electric, fisheries biology, oceanography, hydroacoustic, meteorology, fish handling and processing technology, marketing and fisheries economics. Fishing technology consists of fishing gear and material technology, fishing vessels and auxiliary technology, fishing methods and operations, fish behavior, fish detection and location, identification and development of new fisheries. The exposure clarifies the position of fishing technology as part of applied technology. The Department of Marine Fisheries Technology and Management (MFTM) is one of the Departments in the Faculty of Fisheries and Marine Sciences, Bogor Agricultural University. Its existence is based on the need for the development of science, technology and art within the scope of fishery resources utilization in Indonesia, where fisheries resources is one of the prima Donnas in this country. The Department manages three undergraduate programs, namely the Fishing Technology and Management Major (MFTM Major) and Fishing Technology postgraduate programs Major (Major TPT) and Fishing Systems and Modelling Major (Major SPT).





Vision and Mission

Vision

The vision of Marine Fisheries Technology and Management (MFTM) department has been properly formulated, according to the vision of Bogor Agricultural Institute (BAU).

BAU vision is “to become an international level university in the development of human capital, science, technology and art, with tropical agriculture as the main field of competence.”

The department’s vision is to “become an institution that develops fishing science and fishing technology in the planning and implementation of Marine Fisheries Technology and Management and management in Indonesia.”

Mission

MFTM department’s mission refers to BAU mission formulation.

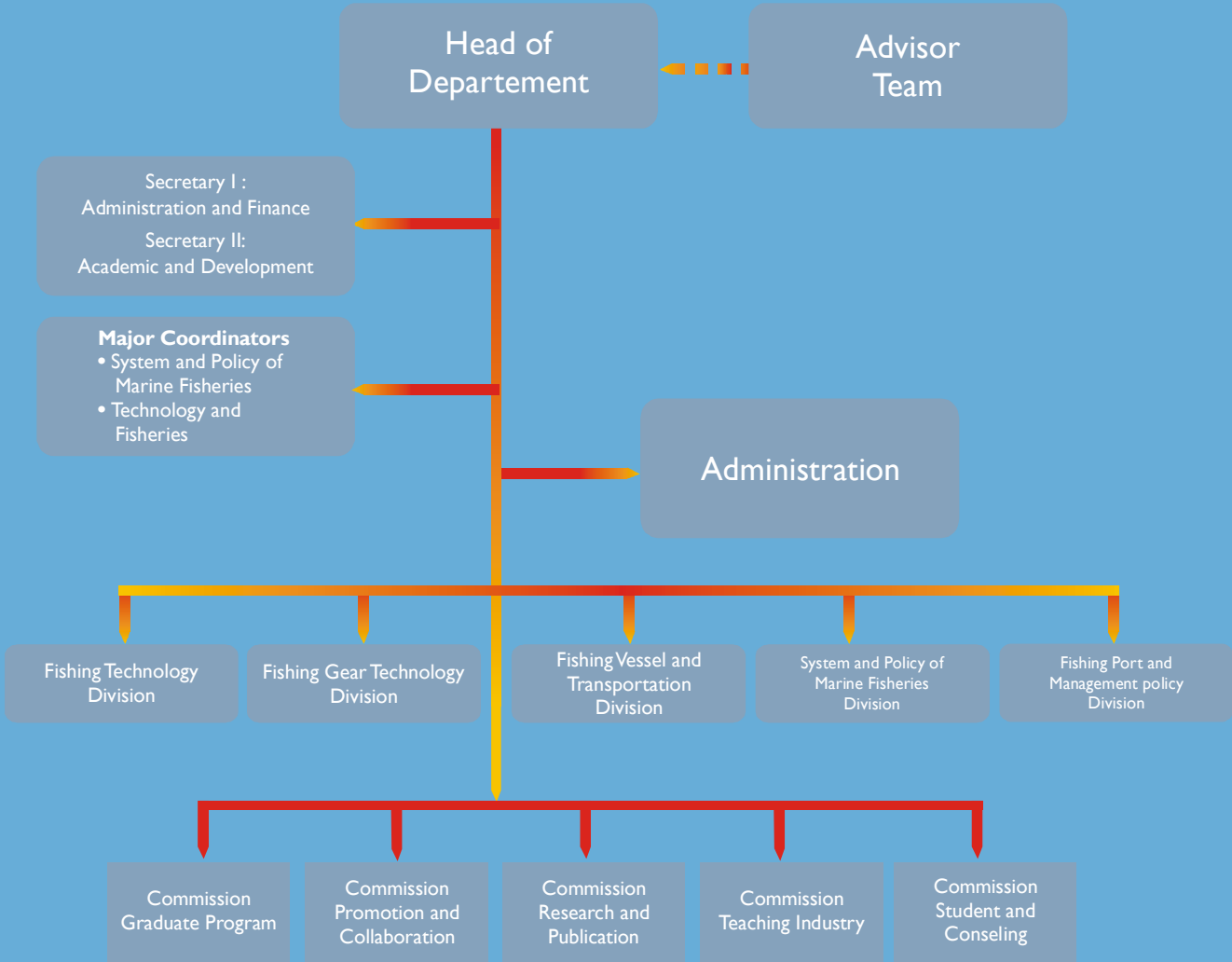
BAU missions:

- (1) To conduct quality education appropriate to the needs of the society in the present and future
- (2) Developing environmentally friendly science and technology through up-to-date research.
- (3) To improve the prosperity of mankind through the implementation and utilization of science and technology.
- (4) To form a prosperous community based on righteousness and human rights.

MFTM department’s mission:

- (1) To produce graduates with an expertise on Marine Fisheries Technology and Management through the process of quality education
- (2) Developing capture fisheries science, technology and art concerning Marine Fisheries Technology and Management through continuous resources; and
- (3) Actively participating in every activities that benefits the development of Indonesian fisheries, particularly capture fisheries through social dedication.

Department Organization



Division

Fishing Technology Division (FT)

a. Mandate :

Development of science, technology and art in:

- (1) Fishing methods
- (2) Fishery resources exploration and exploitation technology
- (3) Fish behavior engineering
- (4) Fishing technology development policy

b. Scope:

- (1) Selective fishing method
- (2) Effective, efficient and environmental friendly fishing units
- (3) Traditional and modern fishing technology
- (4) Developing effective and efficient fishing technology
- (5) Fish response towards fishing gear
- (6) The impact of fishing technology towards fish resource and the environment
- (7) Fishing technology development
- (8) Development policy of effective, efficient and environmental friendly fishing technology



Fishing Gear Technology Division (FGT)

a. Mandate

Developing science technology and art in :

- (1) field of fishing gear material,
- (2) auxiliary fishing gear,
- (3) modeling and design of fishing gear and auxiliary fishing gear,
- (4) engineering and valuating fishing gear and auxiliary fishing gear, and
- (5) the dynamics of fishing gear and auxiliary fishing gear.

b. Scope:

- (1) Fishing gear material types and characteristics, and managing fishing gear (storage and preservation)
- (2) Modeling and designing fishing gear suitable for the needs and the environmental condition of the resources
- (3) Análisis of fishing gear dynamics and the application in the field or in the laboratory
- (4) FAD's design and modeling
- (5) Fishing gear selectivity
- (6) Fishing gear engineering in order to minimize bycatch

Division

Fishing Vessel and Transportation Division (FVT)

a. Mandate

Development of science, technology and art in:

- (1) Fishing Vessel Design and Construction;
- (2) Fishing Vessel Material;
- (3) Fishing Vessel Seaworthiness and Seakindliness;
- (4) Navigation;
- (5) Seamanship;
- (6) Marine Fisheries Transportation; and
- (7) Fishing Vessel Management.

b. Scope :

- (1) Traditional and Modern Fishing Vessel Design and Construction;
- (2) Strength of Material;
- (3) Alternative Material;
- (4) Fishing Vessel Stability;
- (5) Seaworthiness and Seakindliness of Fishing Vessel;
- (6) Work Comfortability in Fishing Vessel;
- (7) Navigation System;
- (8) Marine Fisheries Transportation System;
- (9) Policy and Management engaged to Fishing Vessels.

System and Policy of Marine Fisheries Division (SPF)

a. Mandate

Developing science, technology and art:

- (1) Fishing ground
- (2) Fishing operation management
- (3) Fisheries industry optimization and management
- (4) Capture fisheries system dynamic
- (5) Capture fisheries system analysis and engineering
- (6) Fishery resources modeling
- (7) Fishery management and development

b. Scope:

- (1) Fishing ground analysis and modeling
- (2) Fishing ground mapping and fishing ground GIS.
- (3) Operation research application for capture fisheries study analysis
- (4) Fishsery industry planning, management and marketing strategy.
- (5) Fishery industry policy and production process optimization analysis.
- (6) Quality management in fishery industry

Division

- (7) Interaction dynamics between components within fishery system, such as between fish stock subsystem with fishermen and their fishing gear, competition between fishing gear and allowable catch capacity.
- (8) Capture fisheries system analysis and engineering
- (9) Development of fisheries information system
- (10) Engineering fisheries decision making support system
- (11) Fishery resources development and management models
- (12) Capture fisheries area development plan

Fishing Port And Management Policy Division (FPM)

a. Mandate

Develop fishing port science in the technical and managerial field, which includes:

- (1) Fishing port management and policy
- (2) Port techniques
- (3) Fishing port industries
- (4) Port area
- (5) Catch landing, distribution and transport

b. Scope:

- (1) Fishing port activities and facility management
- (2) Construction and development of fishing port based on *triptyque portuaire* concept
- (3) Catch management and characteristic
- (4) Fishing port policy as public infrastructure
- (5) Facility technology
- (6) Fishing ports constructions technical factors (sedimentation, wave, tidal wave, capacity of facilities)
- (7) Port industry development
- (8) Port industrial zone
- (9) Fishing port spatial geography
- (10) Correlations between fishing port development and regional spatial layout.

Education Staffs

The department is supported by qualified teaching staff competent in their fields, consisted of 5 professors with doctoral degrees, 16 doctors, and 19 magisters. The department also supported by professional academic support staff. We are always committed to produce graduates who are competent in their fields, to be able to fill the fields of employment according to employer needs. Organized educational process based on the principles of quality, timeliness of study, and is committed to providing the best service to students and stakeholders.

Division of Fishing Technology

- Prof. Dr. Ir. Daniel R. Monintja.
- Prof. Dr. Ir. Mulyono S. Baskoro, MSc.
- Prof. Dr. Ir. Ari Purbayanto, MSc.
- Dr. Ir. M. Fedi A. Sondita, MPhil.
- Ir. Ronny I. Wahju, MPhil.
- Dr. Sulaeman Martasuganda, MSc.
- Ir. Wazir Mawardi, MSi.
- Ir. Zulkarnain, MSi.
- Dr. Ir. Am Asbaz Taurusman
- Ir. Mochamad Riyanto, MSi.
- Dr. Ir. Roza Yusfiandayani.
- Ir. Nimmi Zulbainarni, MSi.

Division of Fishing Gear Technology

- Prof. Dr. Ir. Bambang Murdiyanto.
- Dr. Ir. Gondo Puspito, MSc.
- Ir. Diniah, MS.
- Ir. M. Dahri Iskandar, MSi.
- Ir. M. Prihatna Sobari, MS.



Division of Fishing Vessel and Transportation

- Dr. Ir. Budhi H. Iskandar, Dr
- Dr. Ir. Darmawan, Dr
- Dr. Ir. M. Imron, Dr
- Yopi Novita, S.Pi. MSi.
- Vita Rumanti K, MT
- Ir. Fis Purwangka, MSi

Division of System and Marine Fisheries Policy

- Prof. Dr. Ir. John Haluan, MS
- Dr. Ir. Budy Wiryawan
- Dr. Ir. Tri Wiji Nurani, MSi.
- Dr. Ir. Domu Simbolon, MSi.
- Dr. Ir. Sugeng H. Wisudo, MSi.
- Dr. Ir. Eko S. Wiyono, MSi.
- Dr. Mustaruddin, ST
- Ir. Wawan Oktariza, M.Si
- Akhmad Solihin, Spi., MHum
- Ir. Prihatin I. Wahyuningrum, MSi
- Ir. Julia E. Astarini

Division of Fishing Port Management and Policy

- Dr. Ir Ernani Lubis, DEA
- Dr. Ir Anwar B. Pane, DEA
- Ir. Iin Solihin, MSi
- Ir. Dinarwan, MSi
- Ir. Retno Muningsgar, MSi
- Ir. Thomas Nugroho, MSi



Education Programs



The Department manages three academic programs, undergraduate program in Marine Fisheries Technology and Management (MFTM Major), and graduate program in Marine Fisheries Technology (Major MFT) and Marine Fisheries Systems and Modeling Major (Major MFS).



Education Programs

Curriculum of Marine Fisheries Technology and Management Undergraduate Program

MFTM major program is dedicated to produce human resources competent in fishery utilization through the development of sustainable environmental friendly fishing science and technology, including fishing gear, fishery resources exploitation technology, fishing vessels and transport, capture fisheries policy, capture fisheries and fishing port management. Alumni of MFTM major are expected to be professionals, as manager and policy maker for fishery at regional and central level, academics and scientist, and also entrepreneurs.



MFTM major program is dedicated to highschool graduates from every indonesian provinces and abroad. Selections are through USMI, SNMPTN, UTMI and BUD (Local Government Invitation). Annually admits 60-70 students. Currently there are more than 200 students on MFTM major.

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Education Programs

MFTM Major Program Students must take a minimum of 144 credits to achieve graduation. The course consists of 4 groups of subjects, namely: 1) Preparation Level (14 courses, 36 credits); 2) Interdepartemen (6 courses, 18 credits); 3) Marine Fisheries Technology and Management (24 courses, 73 credits; including 1 seminar credits and 6 thesis credits); 4) Minor/Supporting Courses (minimum 17 credits). Timelines of the course is suggested as shown in Table 1. List of courses for each level shown in Table 2 - 4

Tabel 1 Course composition and schedule

Table 2 List of courses for Preparation Level

Course code	Name of courses and credit
IPB 100,101,102,103, 104	Religion, 3(2-2)
IPB 105	Pancasila and Nasionality, 3(2-2)
IPB 106	Indonesian, 3(2-3)
IPB 107	Introduction to Agricultural Science, 2(2-0)
IPB 108	English, 3(2-2)
IPB 109	Sport and Art, 1(0-2)
MAT 100	Mathemathics, 3(2-2)
MAT 103	Calculus, 3(2-2)
KIM 101	Chemistry, 3(2-3)
BIO 100	Biology, 3(2-3)
FIS 100	Physic, 3(2-3)
EKO 100	General Economy, 3(2-2)
KPM 130	General Sociology, 3(2-2)
AGB 100	Enterpreneurship, 1(1-0)

Education Programs

Table 3 List of Interdepartement courses

Course code	Name of courses and credit
BDP 200	Introduction to Aquaculture, 3(2-3)
THP 200	Introduction to Aquatic Product, 3(2-3)
MSP 222	Avertebrate, 3(2-3)
MSP 223	Ichtiology, 3(2-3)
ITK 221	Oceanography, 3(2-3)
STK 211	Statistics, 3(2-3)

Table 4 List of courses for Major Marine Fisheries Technology and Management

Course code	Name of courses and credit
PSP 201	Introduction to Marine Fisheries, 3(2-3)
PSP 211	Fishing Methods, 3(3-0)
PSP 221	Fishing Gear, 3(2-3)
PSP 312	Fishing Technology, 3(2-3)
PSP 321	Fishing Gear Technology, 3(2-3)
PSP 331	Fishing Vessel, 3(2-3)
PSP 311	Fish Behavior, 3(2-3)
PSP 341	Fishing Ground, 3(2-3)

PSP 351	Fishing Port, 3(2-3)
PSP 352	Fishing Catch Analysis, 3(2-3)
PSP 342	Fishing Management and Operation, 3(2-3)
PSP 332	Navigation of Fishing Vessel, 3(2-3)
PSP 333	Seamanship, 3(2-3)
PSP 343	Fishing Exploration,3(2-3)
PSP 301	Underwater Observation Methods, 3(2-3)
PSP 398	Research Methodology, 3(2-3)
PSP 441	Marine Fisheries System, 3(2-3)
PSP 401	Selected Topic in Marine Fisheries, 2(2-0)
PSP 399	Fishing Practice, 4(1-9)
PSP 431	Dynamic of Fishing Vessel, 3(2-3)
PSP 442	Planning and Optimization of Marine Fisheries Industry, 3(2-3)
PSP 451	Planning and Utilization of Fishing Port, 3(2-3)
PSP 498	Seminar, 1(0-3)
PSP 499	Thesis/final, 6(0-18)

Education Programs

Beside major program, the department also offer Underwater Observation Technique as a minor, the competence of this minor is student's ability to swim, perform scientific dive to observe fish behavior, fish response to fishing gear, and fishing gear performance underwater. List of course for Minor Underwater Observation Technique shown in Table 5.

Table 5 List of course for Minor Underwater Observation Technique

Course code	Name of courses and credit
PSP 301	Underwater Observation Methods, 3(2-3)
PSP 311	Fish Behaviour, 3(2-3)
PSP 221	Fishing Gear, 3(2-3)
PSP 211	Fishing Methods, 3(3-0)
PSP 331	Seamanship, 3(2-3)

Curriculum of Marine Fisheries Technology (MFT) Graduate Program

MFT major program is dedicated to produce human resources with Magister and doctor qualification competent in the field of sustainable environmental friendly fishing science and technology, including fishing gear, fishery resources exploitation technology, fishing vessels and transport, capture fisheries policy, capture fisheries and fishing port management. MFT major program manages magister program for graduates and doctoral program for magisters from various disciplinary field related with fishery utilization. MFT major program admits students from various institution such as Ministry of Marine Affair and Fisheries (MMAF), universities, research institution, and other related institution. Beside major program, MFT major program also offer Fishing Technology as a minor.

Education Programs

Master Program

Mandatory Courses from Graduate School

PPS 500	English for Research, 3 (3-0)
STK 511	Statistical Analysis, 3 (3-0)

Mandatory Courses for Marine Fisheries Technology Major

PSP501	Metode of Research, 2(2-0)
PSP511	Responsible Fishing Technology, 3(2-3)
PSP521	Advance Fishing Gear Technology, 3(3-0)
PSP531	Fishing Vessel Technology, 3(2-3)
PSP641	Advanced Fish Behaviour, 3(2-3)
PSP643	Fishing Ground Mapping Technology, 3(2-3)
PSP653	Port Technic, 3(2-3)
PPS601	Colloquium, 1(1-0)
PPS690	Seminar, 1(1-0)
PPS699	Research and Thesis, 6 credits

Minor/ supporting course, 9 credits (minimum)

Courses for Fishing Technology Minor/supporting courses

PSP511	Responsible Fishing Technology, 3(2-3)
PSP521	Advance Fishing Gear Technology, 3(3-0)
PSP531	Fishing Vessel Technology, 3(2-3)

Doctorate Program

Mandatory Courses from Graduate School

PPS 702 Philosophy of Science, 2 (2-0)

PPS 500 English for Research, 3 (3-0)

Mandatory Courses for Marine Fisheries Technology Major

PSP711 Development of Fishing Methods, 3(2-3)

PSP712 Deepsea Fishing Technology, 3(2-3)

PSP721 Advance Fishing Gear, 3(3-0)

PSP731 Evaluation of Fishing Vessel Technology, 3(2-3)

PSP752 Industrial Technology of Fishing Port, 3(2-3)

PPS601 Colloquium, 1(1-0)

PPS690 Seminar, 1(1-0)

PPS699 Research and Dissertation, 12 credits

Minor/ supporting course, 9 credits (minimum)

Courses for Fishing Technology Minor/supporting courses

PSP711 Development of Fishing Methods, 3(2-3)

PSP721 Advance Fishing Gear, 3(3-0)

PSP731 Evaluation of Fishing Vessel Technology, 3(2-3)

Education Programs

Curriculum of Marine Fisheries System and Modelling (MFS). Graduate Program

MFS major program is dedicated to produce human resources with Magister and doctor qualification competent in the field of system, modelling, management and fishery policy. MFS major program manages magister program for graduates and doctoral program for magisters from various disciplinary field related with fishery utilization. MFS major program admits students from various institution such as MMAF, universities, research institution, and other related institution. Beside major program, MFS major program also offer Capture Fisheries Optimizing as a minor for master program and Capture Fisheries Modeling as a minor for doctorate program.

Master Program

Mandatory Courses from Graduate School

PPS 500	English for Research, 3 (3-0)
STK 511	Statistical Analysis, 3 (3-0)

Mandatory Courses for Marine Fisheries System and Modelling Major

PSP501	Metode of Research, 2(2-0)
PSP541	Operation Research in Fisheries Resources Utilization, 3(2-3)
PSP542	Simulation for Fishing Operation, 3(2-3)
PSP543	Optimizing Analysis in Capture Fisheries Industry, 3(3-0)
PSP544	Fishing System Dynamic, 3(2-3)
PSP641	Fishing Ground Analysis, 3(2-3)
PPS601	Colloquium, 1(1-0)
PPS690	Seminar, 1(1-0)
PPS699	Research and Thesis, 6 credits

Minor/ supporting course, 9 credits (minimum)

Courses for Capture Fisheries Optimizing Minor/supporting courses

PSP541	Operation Research in Fisheries Resources Utilization, 3(2-3)
PSP542	Simulation for Fishing Operation, 3(2-3)
PSP641	Fishing Ground Analysis, 3(2-3)

Education Programs

Doctorate Program

Mandatory Courses from Graduate School

PPS 702 Philosophy of Science, 2 (2-0)

PPS 500 English for Research, 3 (3-0)

Mandatory Courses for Marine Fisheries System and Modeling Major

PSP642 Fishing ground Modeling, 3(2-3)

PSP741 Fishing Operations Systems Development, 3(2-3)

PSP704 Planning and Development of Fishing industry, 3(2-3)

PSP742 Fishing Resources management Model, 3(2-3)

PSP743 Planning and Development of Capture Fishery Area, 3(3-0)

PPS601 Colloquium, 1(1-0)

PPS690 Seminar, 1(1-0)

PPS699 Research and Dissertation, 12 credits

Minor/ supporting course, 9 credits (minimum)

Courses for Capture Fisheries Modeling Minor/supporting courses

PSP642 Fishing ground Modeling, 3(2-3)

PSP741 Fishing Operations Systems Development, 3(2-3)

PSP742 Fishing Resources management Model, 3(2-3)

Facilities



In conducting learning and teaching activities, the department not only utilize the structure and infrastructure at BAU Darmaga Bogor campus, but also using field laboratory at Marine Field Station of Faculty at Palabuhanratu, Sukabumi West Java. This field laboratory is utilized to

increase student competence through training, field practice and research. Palabuhanratu Marine Field Station is under direct integrated management of faculty so that it could be used effectively and efficiently, and could be accessed by every faculty student.

Facilities

Department MFTM has 5 divisions, there are division of Fishing Technology, division of Fishing Gear Technology, division of Fishing Vessel and Marine Transportation, division of Marine Fisheries System and Policy, and division of Fishing Port and Management Policy. Each of these divisions has laboratories which equipped with room facilities and equipment for students.

There are sufficient units of libraries, such as the BAU library, the faculty library and department's library. There is sufficient number of books in each library, including latest literatures. For the department's library in particular, there is a significant addition of new books from the A3 Grants Competition. Procurement of library books conducted in stages from 2005 to 2007, as for details: on the year 2005 as many as 401 titles 130 exp added, in 2006 as many as 178 exp and 80 titles added, in 2007 as many as 204 exp 107 titles added. All the books are mostly related to capture fisheries, both from the technical aspects, management, social and policy

Since 2005, through A3 grant the department has been able to add a number of equipment classified as teaching tools, workshops equipment and teaching farm equipment. These equipments has been able to support various activities of both faculty and students for educational and research activities. Department PSP also has a fishing vessel namely KM. PSP 01, which is used for research and economic activities. In addition, there is a flume tank facility currently used by faculty and students for research activities.





Objectives and Goal

- (1) Give significant contribution and becomes the leader in education, research and social dedication programs. Particularly in the field of capture fisheries and marine technology in the national scope.
- (2) Produces graduates that qualifies to become formidable actors in the development and utilization of fishery and marine resources.
- (3) Develop environmental friendly science and technology of capture fisheries.
- (4) Participating in the development of marine and fishery through the assessment of sustainable marine and fisheries policy; and
- (5) To cooperate with private party and other institutions in formulating and utilizing the results of researches and other studies to empower marine and fisheries community.

The particular goal of the department is to produce graduates whose field of expertise is the utilization of fisheries resources. The undergraduate program produces fisheries graduates that could elaborate, identify, and implement environmentally friendly fisheries utilization science, technology and art as a real business activity in the field.



