

HIGHER UNIVERSITY TECHNICIAN IN AQUACULTURE
PROJECTS SPECIALIST
PROFESSIONAL COMPETENCIES

COURSE OF FINANCIAL EVALUATION

LEARNING UNITS

1. Competencies	DEVELOP SUSTAINABLE AQUACULTURE PROJECTS, BASED ON THE MARKET NEEDS AND THE ESTABLISHED REGULATIONS, TO CONTRIBUTE TO THE DEVELOPMENT OF THE SECTOR.
2. Four Month period	FIFTH
3. Theoretical Hours	37
4. Practical Hours	53
5. Total Hours	90
6. Week Total Hours Four Month Period	6
7. Course Objective	The student will develop the financial analysis of an aquaculture project, through the assessment of MARR (Minimum Acceptable Rate of Return), NPV (Net Present Value), and IRR (Internal Rate of Return) besides other sources of funding, to determine the financial viability of the project.

Learning Units	Horas		
	Theoretical	Practical	Total
I. Budgets	15	25	40
II. Financial Evaluation	10	20	30
III. Financing	12	8	20
Totals	37	53	90

WRITTEN BY:	Committee of Directors of the Career of TSU in Aquaculture	REVISED BY:	
APPROVED BY:	C.G.U.T.	EFFECTIVE DATE:	September 2009




FINANCIAL EVALUATION


LEARNING UNITS

1. Learning Unit	I. Budgets
2. Theoretical Hours	15
3. Practical Hours	25
4. Total Hours	40
5. Objective of the Learning Unit	The student will develop the budgets and net cash flow of an aquaculture project, to know the financial needs of the aforementioned and its profitability.

Themes	Learning to know	Learning to do	Learning to be
Basic Concepts of Budget	<p>Explain the definition of budget and its importance in the process of financial planning.</p> <p>Describe the different types of budgets and their role and importance.</p> <ul style="list-style-type: none"> - Income - Expenditure - investment 		<p>Organized</p> <p>Methodical</p> <p>Honest</p> <p>Ethical</p> <p>Responsible</p>
Income Budget	<ul style="list-style-type: none"> - Describe income budget items and their calculation: - Sales Price - Volume of production - Sales Volume - Sales Income 	Develop income budget using specialized software	<p>Organized</p> <p>Methodical</p> <p>Honest</p> <p>Ethical</p> <p>Responsible</p>

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Themes	Learning to know	Learning to do	Learning to be
Expenditure Budget	<p>Identify the income statement accounts and the production cost.</p> <p>Explain the fixed and variable costs.</p> <p>Describe the integration of the items and accounts of the expenditure budget and their calculation:</p> <ul style="list-style-type: none"> - Production Cost - Expenditure Administration - Sales Costs - Financial Expenses - Amortization and Depreciation - Taxes - Fixed and Variable Costs 	Develop the expenditure budget using specialized software.	Organized Methodical Honest Ethical Responsible
Net Cash Flow	<p>Explain the concept and elements that integrate the net cash flow.</p> <p>Identify the items of the income and expenditure budgets that integrate the net cash flow.</p> <ul style="list-style-type: none"> - Explain the concept for stating the time-frame of the Aquaculture project and its criteria: -Project size -Income -Duration of the production cycle. -Aquaculture population growth. <p>Explain the projection of cash flow in the project time-frame.</p>	Develop net cash flow using specialized software.	Organized Methodical Honest Ethical Responsible

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FINANCIAL EVALUATION

EVALUATION PROCESS

Learning outcomes	Learning sequence	Instruments and type of reagents
<p>Based on a practical case, the student will prepare a budget report of a productive aquaculture project, including:</p> <ul style="list-style-type: none"> -Income Budget -Expenditure Budget -Net cash flow on the established time-frame. -Calculations Memory 	<ol style="list-style-type: none"> 1.-Identify the concept and types of Budgets. 2.- Understand the concepts of income and expenditure budgets. 3.-Understand the procedure for developing income and expenditure budgets. 4.-Understand he concepts of net cash flow and project time-frame. 5.-Understand the process for developing net cash flow and time-frame of the project. 	<p>Practical Exercises Checklist</p>

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TEACHING LEARNING PROCESS

Methods and teaching techniques	Media and didactic materials
Case Analysis Practical Exercises Project based learning	Internet Projector Computer equipment Printed Case Specialized software

LEARNING SPACE

Classroom	Laboratory / Workshop	Company
	X	


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LEARNING UNITS

1. Learning Unit	II. Financial Evaluation
2. Theoretical hours	10
3. Practical hours	20
4. Total hours	30
5. Objective of the learning unit	The student will calculate the point of balance indicators, MARR (Minimum Acceptable Rate of Return), NPV (Net Present Value), and IRR (Internal Rate of Return), for the financial evaluation of the Aquaculture project.

Themes	Learning to know	Learning to do	Learning to be
Balance Point	Describe the concept of balance point, the elements that integrate it and its calculation: <ul style="list-style-type: none"> - Fixed Cost - Variable Cost - Sale Price - Units Sold 	Calculate the balance point of an aquaculture project, using specialized software	Organized Methodical Honest Ethical Responsible
Minimum Acceptable Rate of Return (MARR)	Explain the concept of simple and compound interest and its calculation. Identify the concept of Minimum Acceptable Rate of Return (MARR), its elements and calculation: <ul style="list-style-type: none"> - Inflation - Profit Rate 	Calculate the MARR of an aquaculture project, using specialized software.	Organized Methodical Honest Ethical Responsible
Net Present Value (NPV)	Explain the concept of Net Present Value (NPV), its elements and calculation: <ul style="list-style-type: none"> - Project Investment - Net Cash Flows - MARR 	Calculate the NPV of an aquaculture project, using specialized software.	Organized Methodical Honest Ethical Responsible

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Themes	Learning to know	Learning to do	Learning to be
	- Surrender Value		
Internal Rate of Return (IRR)	<p>Explain the concept of Internal Rate of Return (IRR), its elements and calculation:</p> <ul style="list-style-type: none"> -Project Investment -Net Cash Flows -Surrender value -interest Rate the project raises 	Calculate the IRR for an aquaculture project, using specialized software.	Organized Methodical Honest Ethical Responsible
NPV and IRR Evaluation	Describe the criteria for the financial evaluation of an aquaculture project, using NPV and IRR.	Determine the financial viability of the aquaculture project.	Organized Methodical Honest Ethical Responsible

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EVALUATION PROCESS

Learning outcomes	Learning sequence	Instruments and type of reagents
<p>Based on a practical case, the student will prepare a report of the financial evaluation of an aquaculture project, including:</p> <ul style="list-style-type: none"> -Balance Point and its interpretation. -MARR and its Interpretation. -NPV and its Interpretation. -IRR and its Interpretation. -Conclusion -Calculation Memory 	<ol style="list-style-type: none"> 1.-Understand the concept and interpretation of balance point and its calculation procedure. 2.-Understand the concept of simple and compound interest and the calculation procedure. 3.-Identify the concept and interpretation of MARR, NPV and IRR. 4.-Understand the procedure for calculating the MARR, NPV and IRR. 5.-Understand the evaluation criteria of NPV and IRR. 	<p>Practical exercises Checklist</p>

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LEARNING UNITS


1. Learning unit	III. Budgets
2. Theoretical Hours	12
3. Practical Hours	8
4. Total Hours	20
5. Objective of the Learning Unit	The student will develop the funding proposal of aquaculture projects, for the selection of funding sources.

Themes	Learning to know	Learning to do	Learning to be
Investment Program	<p>Identify the accounts of the balance sheet and its integration into the investment budget:</p> <ul style="list-style-type: none"> -Fixed investment: Fixed Assets -Deferred Investment: Deferred assets -Own Resources -Credit for the acquisition of liabilities <p>Describe the concept of working Capital and its calculation.</p> <p>Explain the concept of investment budget, its elements, scheduling and calculation.</p>	Develop investment programs for aquaculture projects.	Organized Methodical Honest Ethical Responsible
Credit	Explain the definition of credit, types of credits and calculation of the funding cost.	Calculate the financial costs of aquaculture projects.	Organized Methodical Honest Ethical Responsible

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Themes	Learning to know	Learning to do	Learning to be
Sources of funding	<p>Identify public and private institutions that provide funding for aquaculture projects.</p> <p>Identify the funding requirements of public programs to support aquaculture projects</p>	Select sources of funding of Aquaculture projects.	<p>Organized</p> <p>Methodical</p> <p>Honest</p> <p>Ethical</p> <p>Responsible</p>

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EVALUATION PROCESS

Learning outcomes	Learning sequence	Instruments and type of reagents
<p>Based on a practical case, the student will prepare a funding and investment report of an aquaculture project, including:</p> <ul style="list-style-type: none"> - Investment Program - Calculation of the funding cost from three different private funding sources. - Calculation of the funding cost from three different public funding sources. -State your selected funding sources and justify your choices. 	<ol style="list-style-type: none"> 1.-Identify the concept of investment budget. 2.-Understand the procedures for developing an investment Budget. 3.-Identify the concept of credit. 4.-Understand the procedures for calculating the funding cost. 5.-Identify the agencies that grant funding and their operational requirements. 	<p>Practical exercises Checklist</p>

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FINANCIAL EVALUATION

CAPACITIES DERIVED FROM THE PROFESSIONAL COMPETENCES TO WHICH THE COURSE CONTRIBUTES

Capacity	Performance criteria
Calculate the production capacity of a sustainable aquaculture project through a technical study, to establish the species and the required aquaculture production system.	<p>Prepare a report that reflects the productive potential of the sustainable aquaculture project, which should include:</p> <ul style="list-style-type: none"> - Location and specific description of the project site - Infrastructure and equipment - The species to work with - The processes and technologies to be used. - The capacity of processes and production programs. - Scenarios with different processes of volumes. - Programs of execution, administrative, training and technical assistance. - Applicable regulatory framework. - Project production and investment costs. - Final report on the technical feasibility of the project.
Justify the profitability of the sustainable aquaculture project through a financial study. Consider the market analysis and the technical study to establish the financing requirements, yield and its approval.	<p>Prepare the financial report of a sustainable aquaculture project that must contain the following criteria:</p> <ul style="list-style-type: none"> - Budgets, investment program and funding sources. - Financial projection (fixed asset and working capital) annual - Current and projected financial situation - Analysis of cost-benefit (constant prices and values). - Conclusions and recommendations. - Annexes with supportive evidence in the document.
Evaluate the environmental impact of the sustainable aquaculture project through a study with reference to the applicable regulations, to establish the remediation and mitigation measures and to obtain the respective approval.	<p>Prepare an Environmental Impact Statement for an aquaculture project that includes:</p> <ul style="list-style-type: none"> - General information about the project, the promoter and the person responsible for the environmental impact study

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Capacity	Performance criteria
	<p>-Project description. Linkage with the applicable legal systems in environmental matters, where applicable, with the regulation on land use.</p> <ul style="list-style-type: none"> - Description of the environmental system and identification of the environmental problems detected in the area of influence of the project - Identification, description and evaluation of environmental impacts. - Preventive measures and mitigation of environmental impacts. - Environmental forecasts and, where appropriate, evaluation of alternatives. - Identification of the methodological instruments and technical elements that support the indicated information.
<p>Manage the financial support needed with the corresponding institutions according to the established procedure and regulations for the implementation of the sustainable aquaculture project.</p>	<p>Integrate a file of financial support for a sustainable project, including:</p> <ul style="list-style-type: none"> - Institutions that provide financial support according to the characteristics of the project - Policies of operation of the institutions. - Request forms.

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BIBLIOGRAPHY

Author	Year	Title	City	Country	Publisher
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