

COMPLIANCE REPORT

DECEMBER

2024

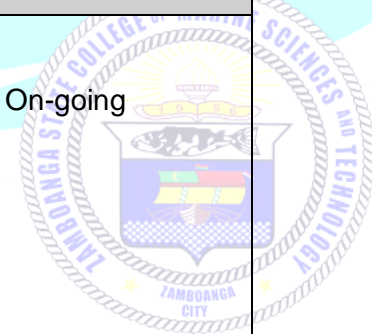
**Bachelor of
Science in
Marine
Engineering**
**COMMUNITY
SERVICE**

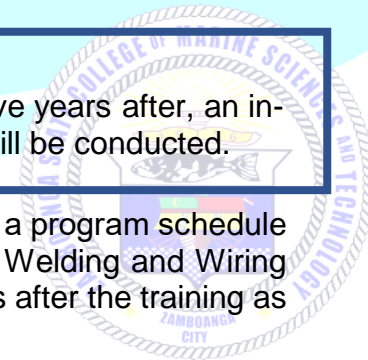


Zamboanga State College of Marine Sciences & Technology (ZSCMST)



Mandatory Requirements	Action Taken	Percentage Compliance (%)	Remarks
<p>1. Conduct more relevant and sustainable extension activities which, three or five years after, an in-depth research-based follow-up impact analysis of the extension programs will be conducted.</p>	<ul style="list-style-type: none"> - Conducted the Welding and Wiring training at barangay Mampang. Which is a part of a 3-year plan. A project assessment was conducted as part of quarterly monitoring. - Conducted Basic Navigation and Seamanship course in collaboration with MARINA Region 9 	85 %	On-going
<p>2. The college should provide an Impact Assessment on the Extension Activity conducted and consider including the following:</p> <ul style="list-style-type: none"> a. A cost-benefit analysis of the cited program's actual expenditures; b. A well-documented report demonstrating the beneficiary's or recipient's improvement in livelihood, economic, social, and other aspects of life as a result of the extension activity; and c. The impact assessment and/or cost benefit analysis may be conducted by an independent group or third party to ensure reliability and valid result. 	<ul style="list-style-type: none"> - Interview with the participants as part of quarterly monitoring for 2023 training program - Conducted with the supervision of TEO of ZSCMST 	75%	On-going
<p>3. Conduct community-based skills and training extension initiatives that are in compliance with TESDA training Regulations.</p>	<ul style="list-style-type: none"> - The Ongoing Welding and Wiring training is in its Phase 3 which in preparation for the participants to be asses by the TESDA accreditation for NC 1 and 2 Certification. Visited the TESDA Region 9 for the inquiry of the Assessment procedure. - Conducted the Basic Navigation and Seamanship Course with Modified Basic Safety Training which a Collaborative program between ZSCMST-CME and MARINA Region 9 	100%	Completed
<p>4. More research-based extension initiatives should be carried.</p>	<ul style="list-style-type: none"> - Use of Motor Control Training Module (a Research base Invention by Engr. Sina Sahidaini) to include in wiring training program. 	50%	On-going





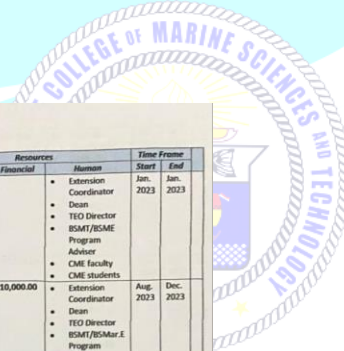
Mandatory Requirement 1:

Conduct more relevant and sustainable extension activities which, three or five years after, an in-depth research-based follow-up impact analysis of the extension programs will be conducted.

The Welding and Wiring Extension training program under “MARINO Techs” is a program schedule for 3 years. On December 2023 the CME Extension Program Conducted the Welding and Wiring training at barangay Mampang. A project assessment was conducted 3 months after the training as part of quarterly monitoring.



MARINO Tech 3 Year Plan (2023-2026)



Republic of the Philippines
ZAMBOANGA STATE COLLEGE OF MARINE SCIENCES AND TECHNOLOGY
COLLEGE OF MARITIME EDUCATION
 Fort Pilar, Zamboanga City
THREE YEARS EXTENSION PLAN
2023 - 2026

CME EXTENSION PROGRAMS/PROJECTS S.Y. 2023-2024

The Extension Program of the College of Maritime Education (CME) to its adopted barangay. The College thru its different programs is mandated to conduct extension services to its various clientele to help in the government's thrust for poverty alleviation in the countryside. Among the main program of the extension department is the Adapt-A-Barangay where a community is selected and adapted to become the center of its extension and livelihood training activities. Other extension programs were based on requests such as consultancy, outreach, or technology dissemination.

The College of Maritime Education conducted various trainings in barangay Mampang since the time it became the College adopted barangay. After the termination of the first agreement with the barangay, a new Memorandum of Agreement (MOA) was signed last 2022 making Mampang the Institutional Adopted Barangay of Zamboanga State College of Marine Sciences and Technology (ZSCMST). For this reason, other colleges and programs of ZSCMST may also render their extension services with the barangay while CME will continue its commitment to the barangay in extending developed technologies for livelihood training and other technical assistance requested.

Along this line, the College of Maritime Education through its different programs will prepare a three-year plan for the College Extension. The College programs will draw plans and projects within their line of expertise and implement them within the target implementation period. Projects previously conducted shall still continue to form part of the extension program for monitoring and evaluation to determine its impact on the community.

Programs/Thrusts	Activities/Action	Objectives	Persons/Units Responsible	Resources		Human	Time Frame	
				Physical	Financial		Start	End
1. Mass Blood Donation	Conduct Blood donation at ZSCMST and La Cardia Octagon Hall	• To participate with Red Cross Zamboanga and La Cardia Eagles Club in city wide bloodcollecting program	• ZSCMST- CME Personnel • CME students • Red Cross Staff • La Cardia Eagles Club Members			• Extension Coordinator • Dean • TEO Director • BSMT/BSME Program Adviser • CME faculty • CME students	Jan. 2023	Jan. 2023
2. Coastal Clean-Up and Pollution Awareness	Conduct Coastal Clean-up on an adjacent Barangay and lecture on Pollution Control Awareness in Participation of MARITIME WEEK 2023	• Raise awareness about the damage being done to our environment by plastic pollution • Help people take responsibility • Reduce the amount of plastic pollution that reaches the ocean or harms wildlife • Bring the problem of plastic pollution to the forefront of people's minds	• Extension Coordinator • Dean • TEO Director • BSMT/BSMar.E Program Adviser • CME faculty	Supplies and materials needed for the activities	P10,000.00	• Extension Coordinator • Dean • TEO Director • BSMT/BSMar.E Program Adviser • CME students	Aug. 2023	Dec. 2023
3. "MARINO Techs" Welding Training- Phase 2 with Basic First Aid on Electrical and Fire Hazards	Conduct the Continuation of Welding Training at Mampang, Zamboanga City	• Common Competence - Apply Safety Practices - Use Hand Tools - Prepare Weld Materials - Setup Welding Equipment - Fit up Weld Materials - Repair Welds	• Extension Coordinator • Dean • TEO Director • BSMar.E Program Adviser • CME faculty	Supplies and materials needed for the activities	P60,000.00	• Extension Coordinator • Dean • TEO Director • BSMar.E Program Adviser • CME faculty • CME students	Oct. 2023	Dec. 2023
3. "MARINO Techs" Electrical wiring Training- Phase 2 with Basic First Aid on Electrical and Fire Hazards	Conduct the Continuation of Electrical wiring Training at Mampang, Zamboanga City	• Common Competence - Use Hand tools - Perform Measurement and Calculation - Apply Quality Standards - Terminate and Connect Electrical Wiring and Electronic Circuits	• Extension Coordinator • Dean • TEO Director • BSMar.E Program Adviser • CME faculty	Supplies and materials needed for the activities	P60,000.00	• Extension Coordinator • Dean • TEO Director • BSMar.E Program Adviser • CME faculty • CME students	Oct. 2023	Dec. 2023
4. Basic Navigation and Seamanship Course (BaNaSCo) with Modified Basic Safety Training	Lecture and Practical exercise on basic Navigation and Seamanship with Basic safety training in Partnership with MARINA Region 9 office	• Lecture on Understand the importance of environmental sustainability and safe boating practices while navigating waterways. • Knot tying • Basic seamanship skills, including boat handling, anchoring, and driving	• Extension Coordinator • Dean • TEO Director • BSMT Program Adviser • CME faculty • CME students • MARINA-IX office personnel	Supplies and materials needed for the activities	P20,000.00	• Extension Coordinator • Dean • TEO Director • BSMT Program Adviser • CME faculty • CME students	Jan. 2024	Feb. 2024

5. "MARINO Techs" Welding Training- Phase 3	Conduct the Continuation of Welding Training in preparation for TESSA Assessment.	• Core Competences - Interpret Drawings and Sketches - Perform Industry Calculations - Contribute to quality system - Weld Carbon Steel Plates and Pipes using SMAW	• Extension Coordinator • Dean • TEO Director • BSMar.E Program Adviser • CME faculty • CME students	Supplies and materials needed for the activities	P60,000.00	• Extension Coordinator • Dean • TEO Director • BSMar.E Program Adviser • CME faculty • CME students	Apr. 2024	Dec. 2024
6. "MARINO Techs" Wiring Training- Phase 3	Conduct the Continuation of Wiring Training in preparation for TESSA Assessment.	• Core Competence - Prepare and Interpret Technical Drawing - Perform roughing-in activities, wiring and cabling works for single phase distribution, power, lighting and auxiliary systems - Install electrical protective devices for distribution, power, lighting, auxiliary, lighting protection and grounding systems - Install wiring devices of floor and wall-mounted outlets, lighting fixtures/switches and auxiliary outlets • Use of motor control training module • help participants to pass the TESSA assessment	• Extension Coordinator • Dean • TEO Director • BSMar.E Program Adviser • CME faculty • CME students	Supplies and materials needed for the activities	P60,000.00	• Extension Coordinator • Dean • TEO Director • BSMar.E Program Adviser • CME faculty • CME students	Apr. 2024	Dec. 2024
7. Monitoring for Basic Navigation and Seamanship Course (BaNaSCo) with Modified Basic Safety Training	Monitoring and updates of the federals participants			Supplies and materials needed for the monitoring	P5,000.00	• Extension Coordinator • Dean • TEO Director • BSMT Program Adviser • CME faculty • CME students	June 2024	Oct. 2024
8. "MARINO Techs" Machining Training- Phase 1	Conduct training lecture for Machining training phase 1 at barangay Mampang	• Basic Competence - Participate in workplace communication - Work in a team environment - Practice career professionalism - Practice occupational health and safety procedures	• Extension Coordinator • Dean • TEO Director • BSMar.E Program Adviser • CME faculty	Supplies and materials needed for the activities	P30,000.00	• Extension Coordinator • Dean • TEO Director • BSMar.E Program Adviser • CME faculty • CME students	Oct. 2024	Dec. 2024
9. "MARINO Techs" Welding Training- Phase 4	Prepare the participants for skills training for employability	• Help participants to be employed after obtaining NC 1 and NC 2	• Extension Coordinator • Dean • TEO Director • BSMar.E Program Adviser • CME faculty	Supplies and materials needed for the activities	P5,000.00	• Extension Coordinator • Dean • TEO Director • BSMT/BSME Program Adviser • CME faculty • CME students	Jan. 2025	Dec. 2025
10. "MARINO Techs" Machining Training- Phase 2	Prepare the participants for skills training for employability	• Help participants to be employed after obtaining NC 1 and NC 2	• Extension Coordinator • Dean	Supplies and materials needed for the activities	P5,000.00	• Extension Coordinator • Dean	Jan. 2025	Dec. 2025

Prepared by:

3/E IVAN JUDE P. MARTINEZ
 CME, Extension Coordinator

CAPT. MARNETTE APIT
 CME, FACULTY

GEORGE S. LAURIAGA JR.
 CME, Faculty

Noted by:

C/E CHRISTALYN D.R. CHIONG, MMM.
 CME, Dean

MARLON R. OMATANG
 TEO, Director

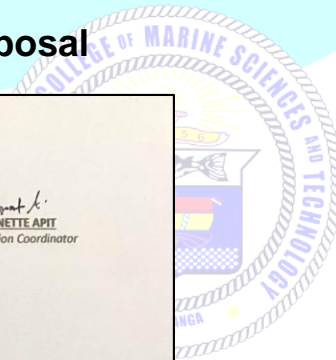
Recommending Approval:

RUFAL L. MENDOZA, Ph.D.
 VP for Research, Innovation and Extension

Approved by:

JAIME G. JALON, Ph.D.
 College President

MARINO Tech Welding and Wiring Phase 2 Project Proposal



Republic of the Philippines
Zamboanga State College of Marine Sciences and Technology
College of Maritime Education
Fort Pilar, Zamboanga City

Mariners Advancing Regional Industries through Novel Technologies: **MARINO TECHS**
"Enabling Marine and Maritime Communities through livelihood and Technologies"

Title of Project : Phase 2: CME-Community Extension Projects for A.Y. 2023

Proponent : 3/E Ivan Jude P. Martinez
C/E Christaly D.R. Chiong
Capt. Marnette Apit
Marlon R. Omatang
George S. Lauriaga Jr.

Location of Beneficiaries : Barangay Mampang, Zamboanga City

Date of Implementation : September – December, 2023

Source of Funding : STF-Tuition and other fees

Project Cost : 140,000.00

Rationale:

Community Extension Services is an essential function of higher education institutions that derives its plans and programs for the delivery of community services from instruction and research. Conducting community extension service is about relationships in building communities through teaching. The programs and activities are geared toward helping people by empowering themselves through sustainable programs and enabling the programs to reach and "touch the lives" of communities and the environment through services that

3:22PM
10-14-23
CME DEAN
TEO for 10/14/23

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prepared by:

3/E IVAN JUDE P. MARTINEZ
CME, Extension Coordinator

GEORGE S. LAURIAGA JR.
CME, Faculty

CAPT. MARNETTE APIT
CME, Assist. Extension Coordinator

Noted by:

C/E CHRISTALYN D.R. CHIONG, MMM.
CME, Dean

MARLON R. OMATANG
TEO, Director

Recommending Approval:

RUFIA L. MENDEZ, Ph.D.
VP for Research and Extension

Approved by:

JAIME G. JALON, Ph.D.
College President

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- Letter to Barangay Mampang to conduct Welding and Wiring Training - Letter to request memorandum for CME Faculty

Republic of the Philippines
ZAMBOANGA STATE COLLEGE OF MARINE SCIENCES AND TECHNOLOGY
Fort Pilar, Rio Hondo, Zamboanga City
Tel. No.: (062) 991-0644 Telefax (062) 991-0777 website: <http://www.zscomst.edu.ph>

December 12, 2023

HON. LEONARD P. ALIANGAN
Barangay Chairman
Barangay Mampang, Zamboanga City

Dear Sir,

I am writing on behalf of Zamboanga State College of Marine Sciences and Technology- College of Maritime Education Extension program. We are seeking your approval to conduct a **Welding and Wiring training session in Barangay Mampang on December 15-17, 2023.**

The training aims to equip participants with essential skills in welding and wiring, which are valuable in various industries and trades. The sessions will cover safety procedures, equipment operation, basic techniques, and hands-on practice to enhance participants' proficiency in these areas.

We believe that offering this training in Barangay Mampang will benefit community members by providing them with valuable skills that can lead to increased employment opportunities and economic empowerment. By hosting this training, we aim to contribute to the development and growth of the local workforce.

We assure you that all necessary safety precautions and protocols will be followed during the training sessions to ensure a safe and conducive learning environment for all participants.

We kindly request your support and assistance in facilitating the logistics for this training program. Your approval and cooperation are essential to the success of this initiative.

Thank you for considering our proposal. We look forward to the opportunity to collaborate with Barangay Mampang in empowering individuals through skills training.

Thank you for your attention to this matter.

Sincerely,

3/E IVAN JUDE P. MARTINEZ
CME Extension Coordinator

OFFICE OF THE BRGY. COUNCIL
Mampang, Zamboanga City

RECEIVED

DATE: 12/14/23 TIME: 11:20 AM
BY: [Signature]
Position: [Signature]

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Republic of the Philippines
ZAMBOANGA STATE COLLEGE OF MARINE SCIENCES & TECHNOLOGY
Fort Pilar Shrine, Zamboanga City 7000
COLLEGE OF MARITIME EDUCATION
Tel. No. (062) 991-0644 Telefax (062) 991-0777 website: <http://www.zscomst.edu.ph> email: registrar@zscomst.edu.ph

December 14, 2023

DR. JAIME G. JALON
College President
Zamboanga State College of Marine Sciences and Technology

Thru: DR. RACHEL D. LAURIAGA
Vice President for Academic Affairs

Herewith is the list of CME faculty who will be conducting the CME Extension Activity from December 15-17, 2023 in Barangay Mampang, this city. We request that the list faculty members be granted official time for this training duration.

C/E Christalyn DR. Chiong
Mr. Marlon Omatang
R/O Jesus Cristobal Espina
Engr. Romilo Jayson
Capt. Marnette Apit
2/M Ribal Ybera
3/E Ivan Jude Martinez

Thank you for your support.

Very truly yours,

3/E IVAN JUDE P. MARTINEZ
CME Extension Coordinator

Noted by:

C/E CHRISTALYN DR. CHIONG, MMM
Dean, CME

RUFIA L. MENDEZ, Ph.D.
Vice President for Research, Innovation, and Extension

Recommending approval:

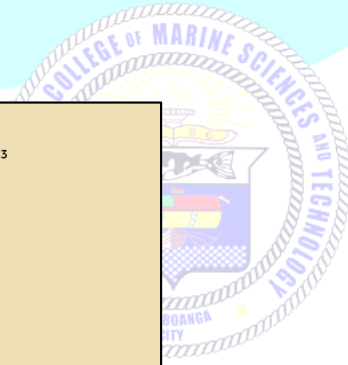
RACHEL D. LAURIAGA, Ph.D.
Vice President for Academic Affairs

Approved by:


JAIME G. JALON, Ph.D.
College President

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PROGRAM FLOW



**COLLEGE OF MARITIME
EDUCATION**



**MARINO TECHS:
WELDING AND
WIRING**

MAMPANG MULTI-
PURPOSE HALL,
MAMPANG, ZAMBOANGA
CITY

**CME EXTENSION PROGRAM 2023
"MARINO TECHS"**

DAY 1:
MORNING SESSION (9:00 AM - 12:00 PM)
REGISTRATION
- SECRETARIAT: RISIL YBERA
NATIONAL ANTHEM
- AVP
WELCOME REMAMRKS:
- C/E CHRISTALYN DR. CHIONG, MMM
DEAN, COLLEGE OF MARITIME EDUCATION
APPRECIATION REMARKS:
- HON. LEONARD PINGANA ALIANGAN
BARANGAY CAPTAIN, MAMPANG Z.C.

INTRODUCTION OF FACILITATORS AND PARTICIPANTS
OVERVIEW OF THE EXTENSION PROGRAM OBJECTIVES
- MARLON OMATANG
- IVAN JUDE P. MARTINEZ

ENGAGING ACTIVITIES TO ENHANCE BASIC SKILLS (WIRING AND
WELDING)
INTERACTIVE LEARNING SESSIONS
- RONILO JAYSO
- JESUS CRISTOBAL ESPINA

LUNCH

AFTERNOON SESSION (1:00 PM - 4:00 PM)
CONTINUATION OF INTERACTIVE LEARNING SESSIONS
- RONILO JAYSO
- JESUS CRISTOBAL ESPINA

COMMUNITY ENGAGEMENT
BASIC FIRST AID SESSION
- MARNETTE APIT

DAY 2:
MORNING SESSION (9:00 AM - 12:00 PM)
REGISTRATION
- SECRETARIAT: RISIL YBERA
WORKSHOP ACTIVITY (WIRING AND WELDING)
- CREATING ACTUAL PROJECT

LUNCH

AFTERNOON SESSION (1:00 PM - 4:00 PM)
CONTINUATION OF WORKSHOP ACTIVITY
RECAP

DAY 3:
MORNING SESSION (9:00 AM - 12:00 PM)
REGISTRATION
- SECRETARIAT: RISIL YBERA

PROJECT PRESENTATIONS
- GROUPS PRESENT THEIR PROJECTS
- FEEDBACK AND REFLECTION SESSION

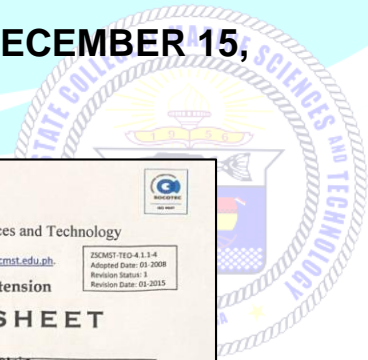
ACKNOWLEDGMENT OF PARTICIPANTS AND FACILITATORS
- MARLON OMATANG (TRAINING AND EXTENSION OFFICE DIRECTOR)

LUNCH

DISTRIBUTION OF CERTIFICATES
- C/E CHRISTALYN DR. CHIONG, MMM

CLOSING REMARKS AND EXPRESSIONS OF GRATITUDE
- C/E CHRISTALYN DR. CHIONG, MMM

ATTENDANCE FOR THE WELDING AND WIRING TRAINING DECEMBER 15, 2024



Republic of the Philippines
 Zamboanga State College of Marine Sciences and Technology
 Fort Pilar, Zamboanga City
 Tel. No.: (062) 991-0777 website: <http://www.zscmst.edu.ph>

ZSCMST-TEO-4.1.1-4
 Adopted Date: 01-2008
 Revision Status: 1
 Revision Date: 01-2015

ATTENDANCE SHEET

ACTIVITY: EVALUATION WELDING SKILLS TRAINING
 VENUE: MULTI-PURPOSE BARANGAY MAMPANG, Z.C.
 DATE: December 15, 2023

NO.	NAME	GENDER		OFFICE/AGENCY/BARANGAY /SCHOOL	SIGNATURE
		M	F		
01.	SVELLO SAMUEL III P.	/		ZSCMST PATIK	[Signature]
02.	LAMPANG ABHAR D	/		ZSCMST AYALA	[Signature]
03.	CANDIDO, ALLAN JR. S.	/		ZSCMST Tapan-Tapan	[Signature]
04.	Candido Aldrin -B	/		Mampang	[Signature]
05.	RODRIGUEZ Rocio I.	/		Mampang	[Signature]
06.	ELY BARRERA	/		Mampang	[Signature]
07.	Sagunaris Sinos	/		Mampang	[Signature]
08.	CHARLES BROWN M. TORRES	/		Mampang	[Signature]
09.	RODRIGUEZ P. Dula ROXAS	/		Mampang	[Signature]
10.	RESIMAR O. CRISTOBAL	/		Mampang	[Signature]
11.	Arelino A. Francisco	/		Mampang	[Signature]
12.	CHRISTOPHER VERGARA	/		Mampang ZSCMST	[Signature]
13.	PAULINO LOPEZ	/		Mampang	[Signature]
14.	GABRIEL B. BARRERA	/		ZSCMST	[Signature]
15.	JUANITA ANTONIO A.	/		ZSCMST Mampang	[Signature]
16.	Gerard B. Romberg	/		Mampang	[Signature]
17.	RODRIGUEZ P. Dula ROXAS	/		Mampang	[Signature]
18.	Fico Ryan Jerald	/		Mampang	[Signature]
19.	RODRIGUEZ, CHRISTOPHER	/		ZSCMST - CALAPAN	[Signature]
20.	EUGENE QUEZADA	/		ZSCMST - FC COMPOUND	[Signature]
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ACTIVITY: WELDING SKILLS TRAINING
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NO.	NAME	GENDER		OFFICE/AGENCY/BARANGAY /SCHOOL	SIGNATURE
		M	F		
01.	JUANITA ANTONIO A.	/		ZSCMST - MAMPANG	[Signature]
02.	PACADOR CHRISTOPHER M.	/		ZSCMST - CALAPAN	[Signature]
03.	RODRIGUEZ Rocio I.	/		ZSCMST - FC COMPOUND	[Signature]
04.	LAMPANG ABHAR D.	/		ZSCMST - AYALA	[Signature]
05.	CANDIDO, ALLAN JR. S.	/		ZSCMST - Tapan-Tapan	[Signature]
06.	CHARLES BROWN M.	/		ZSCMST - MAMPANG	[Signature]
07.	SVELLO SAMUEL III P.	/		ZSCMST - PATIK	[Signature]
08.	GABRIEL BARRERA	/		ZSCMST - FCOM II	[Signature]
09.	PAULINO LOPEZ	/		ZSCMST - Tapan-Tapan	[Signature]
10.	VINCENT ALBERTO B.	/		MAMPANG	[Signature]
11.	ELY BARRERA	/		Mampang	[Signature]
12.	FRANCISCO CRISTOBAL	/		MAMPANG	[Signature]
13.	PAULINO LOPEZ	/		ZSCMST Tapan-Tapan	[Signature]
14.	MIRELLA MITZEL PIDE	/		MAMPANG	[Signature]
15.	FRANCISCO C.	/		Mampang	[Signature]
16.	Arelino Francisco A.	/		MAMPANG	[Signature]
17.	ASAJAR ROCLO	/		MAMPANG	[Signature]
18.	TRUPO PAMELICO B.	/		MAMPANG CALAPAN	[Signature]
19.	HORLADOR, ARNOLD	/		ZSCMST - AYALA	[Signature]
20.	JANICE ABETA	/		MAMPANG	[Signature]
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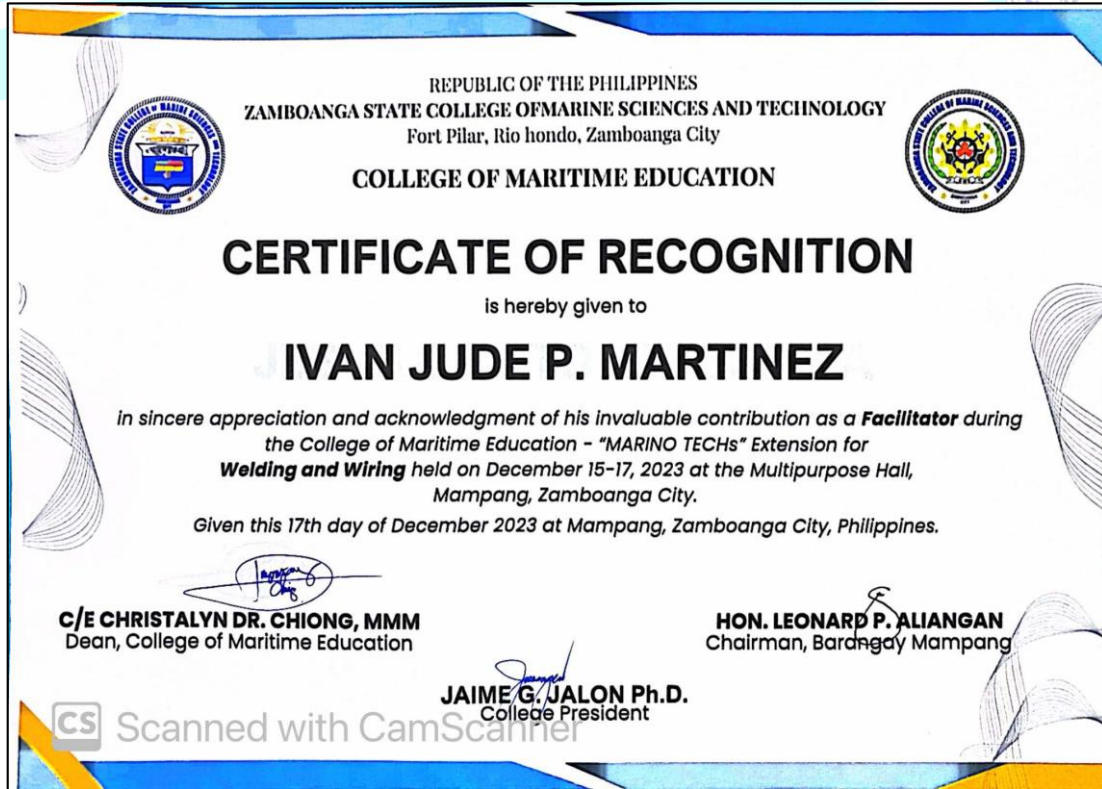
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03.	LAMPANG ABHAR D.	/		AYALA	[Signature]
04.	JUANITA ANTONIO A.	/		MAMPANG - ZSCMST	[Signature]
05.	GABRIEL BARRERA	/		ZSCMST - FCOM II	[Signature]
06.	CANDIDO, ALLAN JR. S.	/		ZSCMST - Tapan-Tapan	[Signature]
07.	CHARLES BROWN M.	/		ZSCMST - MAMPANG	[Signature]
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14.	TRUPO PAMELICO B.	/		MAMPANG	[Signature]
15.	VINCENT ALBERTO B.	/		MAMPANG	[Signature]
16.	MIRELLA MITZEL PIDE	/		MAMPANG	[Signature]
17.	ASAJAR ROCLO	/		MAMPANG	[Signature]
18.	FRANCISCO CRISTOBAL	/		MAMPANG	[Signature]
19.	HORLADOR, ARNOLD	/		ZSCMST - AYALA	[Signature]
20.	JANICE ABETA	/		MAMPANG	[Signature]
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 SECRETARIAT

CERTIFICATES FOR RESOURCE PERSON



CERTIFICATES FOR FACILITATOR



CERTIFICATES FOR PARTICIPANTS





REPUBLIC OF THE PHILIPPINES
ZAMBOANGA STATE COLLEGE OF MARINE SCIENCES AND TECHNOLOGY
Fort Pilar, Rio hondo, Zamboanga City



COLLEGE OF MARITIME EDUCATION

CERTIFICATE OF PARTICIPATION

is hereby given to

ELY P. BARRERA

for successfully completing the College of Maritime Education - "MARINO TECHs" Extension for
Welding and Wiring held on December 15-17, 2023 at the Multipurpose Hall,
Barangay Mampang, Zamboanga City.

Given this 17th day of December 2023 at Mampang, Zamboanga City, Philippines.

C/E CHRISTALYN DR. CHIONG, MMM
Dean, College of Maritime Education

HON. LEONARD P. ALIANGAN
Chairman, Barangay Mampang

JAIME G. JALON Ph.D.
College President

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REPUBLIC OF THE PHILIPPINES
ZAMBOANGA STATE COLLEGE OF MARINE SCIENCES AND TECHNOLOGY
Fort Pilar, Rio hondo, Zamboanga City



COLLEGE OF MARITIME EDUCATION

CERTIFICATE OF PARTICIPATION

is hereby given to

ROCELO J. ASAJAR

for successfully completing the College of Maritime Education - "MARINO TECHs" Extension for
Welding and Wiring held on December 15-17, 2023 at the Multipurpose Hall,
Barangay Mampang, Zamboanga City.

Given this 17th day of December 2023 at Mampang, Zamboanga City, Philippines.

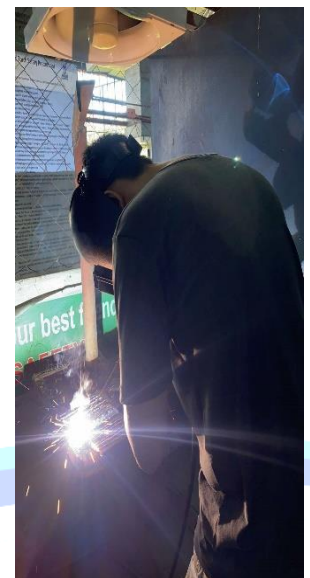
C/E CHRISTALYN DR. CHIONG, MMM
Dean, College of Maritime Education

HON. LEONARD P. ALIANGAN
Chairman, Barangay Mampang

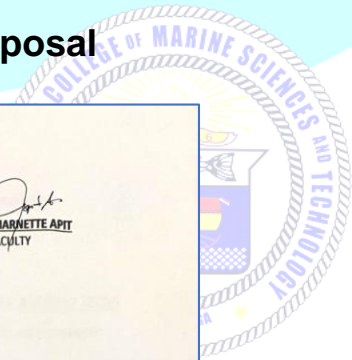
JAIME G. JALON Ph.D.
College President

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On June 2024, the follow up Phase was conducted at ZSCMST Campus for the Welding and Wiring Program.



MARINO Tech Welding and Wiring Phase 3 Project Proposal



Republic of the Philippines
Zamboanga State College of Marine Sciences and Technology
College of Maritime Education
Fort Pilar, Zamboanga City



Mariners Advancing Regional Industries through Novel Technologies: **MARINO TECHS**
"Enabling Marine and Maritime Communities through livelihood and Technologies"

Title of Project : Phase 3: CME-Community Extension Projects and Basic Navigation and Seamanship Course (BaNaSCo)
For AY: 2023-2024

Proponent : 3/E Ivan Jude P. Martinez
C/E Christalyn D.R. Chiong
Capt. Marnette Apit
Marlon R. Omatang
George S. Lauriaga Jr.

Location of Beneficiaries : Barangay Mampang, Zamboanga City

Date of Implementation : February– December, 2024

Source of Funding : STF-Tuition and other fees

Project Cost : 100,000.00

Rationale:

Community Extension Services is an essential function of higher education institutions that derives its plans and programs for the delivery of community services from instruction and research. Conducting community extension service is about relationships in building communities through teaching. The programs and activities are geared toward helping people by empowering themselves through sustainable programs and enabling the programs to reach and "touch the lives" of communities and the environment through services that transfer knowledge and technologies to create an impact on holistic and sustainable development programs and people empowerment.

Prepared by:

3/E IVAN JUDE P. MARTINEZ
CME, Extension Coordinator

CAPT. MARNETTE APIT
CME, FACULTY

GEORGE S. LAURIAGA JR.
CME, Faculty

Noted by:

C/E CHRISTALYN D.R. CHIONG, MMM,
CME, Dean

MARLON R. OMATANG
TEO, Director

Recommending Approval:

RUFA L. MENDEZ, Ph.D.
VP for Research, Innovation and Extension

Approved by:

JAIME G. JALÓN, Ph.D.
College President

Letter to conduct Phase 3 Welding and Wiring Training at ZSCMST



ZAMBOANGA STATE COLLEGE OF MARINE SCIENCES & TECHNOLOGY
Fort Pilar Shrine, Zamboanga City 7000
COLLEGE OF MARITIME EDUCATION

MARINO TECHS WELDING AND WIRING TRAINING

May 03, 2024

Dr. Jaime G. Jalon
College President
This College

Subject: Request Approval for weekly Welding and Wiring Training in Campus

Dear Dr. Jalon,


This has reference to the approved extension program of the college **MARINO Techs- Maritime Teachers Teach Technology**. The program aims to provide practical skills training to our participants in the field of welding and wiring to enhance their technical knowledge and improve their employability. As we are now on Phase 3 of the program implementation, I would like to request for the approval to conduct Welding and Wiring Training at school campus (CME Machine shop and CME Electro-Laboratory).

Specifically, the training sessions are scheduled every Saturday from May to July 2024. The participants will gain hands-on experience and industry-relevant skills that will benefit them in their future careers by conducting this training in campus. The training will be facilitated by qualified instructors from College of Maritime Education, ensuring high-quality education and professional guidance throughout the program. We believe that this program will not only enrich the learning experience of our participants but also contribute to the overall growth of our educational institution. A separate attachment referring to the program flow with the assigned faculty and their specific task will be provided.

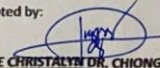
In view hereof, I am requesting for the approved work schedule of faculty involved (See attached list) and the access of Mampang resident trainees (List of names attached) on the schedule training dates along with the approved use of the facilities and equipment.

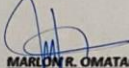
Thank you very much for your continued support.

Respectfully yours,

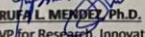

3/E IVAN JUDE P. MARTINEZ
CME Extension Coordinator

Noted by:



C/E CHRISTALYN DR. CHIONG, MMM
CME Dean
Director


MARLON R. OMATANG
Training and Extension Office

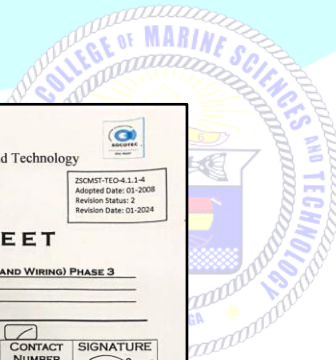
Recommending Approval:


RUFA L. MENDEL, Ph.D.
VP for Research, Innovation and Extension

Approved by:


JAIME G. JALON, Ph.D.
College President
FRUGAN FLOW

Attendance sheet for Phase 3 Welding and Wiring



Republic of the Philippines
Zamboanga State College of Marine Sciences and Technology
Research, Innovation, & Extension Office
Fort Pilar, Zamboanga City
website: <http://www.vprii.edu.ph>

ZSCMST-TEO-4.1.1-4
Adopted Date: 01-2008
Revision Status: 2
Revision Date: 01-2024

ATTENDANCE SHEET

ACTIVITY: CME MARINO TECHS EXTENSION PROGRAM (WELDING AND WIRING) PHASE 3
VENUE : ZSCMST-CAMPUS A
DATE : JULY 15, 2024

N O.	AM		PM		SIGNATURE
	NAME	GEN. M F	OFFICE/AGENCY/ BARANGAY/SCHOOL	CONTACT NUMBER	
01.	Reyes, Jimwell I			0938495401	
02.	WAN JUDE P. MARTINEZ		CME - FACULTY		
03.	ARIETA, ANGELOBERT P.			0921193041	
04.	ARNO, JOAN H.			0904040909	
05.	ARAGON, JOEL A. JA.			0921498143	
06.	BALDADO R. GARCIA			09050004	
07.	Ramos, Joseph M.			0922513438	
08.	Estada, Trina Kate V.			0916093104	
09.	Arca, Joshua G.			0932711033	
10.	YANILLO Y. VICTOR		CME-FACULTY	0928889920	
11.	DEPIÑA, JESUS CRISTOPAL M.		CME FACULTY	0926163713	
12.	MARION OMBITAHN		TEO		
13.	ARIETA, JAYVIE				
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3/6 WAN JUDE MARTINEZ
SECRETARIAT

Republic of the Philippines
Zamboanga State College of Marine Sciences and Technology
Research, Innovation, & Extension Office
Fort Pilar, Zamboanga City
website: <http://www.vprii.edu.ph>

ZSCMST-TEO-4.1.1-4
Adopted Date: 01-2008
Revision Status: 2
Revision Date: 01-2024

ATTENDANCE SHEET

ACTIVITY: CME MARINO TECHS EXTENSION PROGRAM (WELDING AND WIRING) PHASE 3
VENUE : ZSCMST-CAMPUS A
DATE : JULY 22, 2024

N O.	AM		PM		SIGNATURE
	NAME	GEN. M F	OFFICE/AGENCY/ BARANGAY/SCHOOL	CONTACT NUMBER	
01.	WAN JUDE P. MARTINEZ		CME - FACULTY		
02.	Arca, Joshua G.			0932711033	
03.	Reyes, Jimwell I			0938495401	
04.	BALDADO R. GARCIA			09050004	
05.	ARNO, JOAN H.			0904040909	
06.	ARAGON, JOEL A. JA.			0921498143	
07.	Estada, Trina Kate V.			0916093104	
08.	ARIETA, ANGELOBERT P.			0921193041	
09.	BALDADO, HAMILTON G.			09050004	
10.	Ramos, Joseph M.			0922513438	
11.	ARAGON, JOEL A. JA.			0921498143	
12.	YANILLO Y. VICTOR		CME-FACULTY	0928889920	
13.	DEPIÑA, JESUS CRISTOPAL M.		CME FACULTY	0926163713	
14.	MARION OMBITAHN		TEO		
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3/6 WAN JUDE MARTINEZ
SECRETARIAT

Republic of the Philippines
Zamboanga State College of Marine Sciences and Technology
Research, Innovation, & Extension Office
Fort Pilar, Zamboanga City
website: <http://www.vprii.edu.ph>

ZSCMST-TEO-4.1.1-4
Adopted Date: 01-2008
Revision Status: 2
Revision Date: 01-2024

ATTENDANCE SHEET

ACTIVITY: CME MARINO TECHS EXTENSION PROGRAM (WELDING AND WIRING) PHASE 3
VENUE : ZSCMST-CAMPUS A
DATE : October 17, 2024

N O.	AM		PM		SIGNATURE
	NAME	GEN. M F	OFFICE/AGENCY/ BARANGAY/SCHOOL	CONTACT NUMBER	
01.	ARAGON, JOEL A. JA.			0921498143	
02.	WAN JUDE P. MARTINEZ		CME-FACULTY		
03.	ARNO, JOAN H.			0904040909	
04.	Estada, Trina Kate V.			0916093104	
05.	Ramos, Joseph M.			0922513438	
06.	BALDADO, HAMILTON G.			09050004	
07.	ARIETA, ANGELOBERT P.			0921193041	
08.	Reyes, Jimwell I			0938495401	
09.	Arca, Joshua G.			0932711033	
10.	BALDADO R. GARCIA		CME-FACULTY	09050004	
11.	YANILLO Y. VICTOR		CME-FACULTY	0928889920	
12.	DEPIÑA, JESUS CRISTOPAL M.		CME-FACULTY	0926163713	
13.	MARION OMBITAHN		TEO		
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3/6 WAN JUDE MARTINEZ
SECRETARIAT

Republic of the Philippines
Zamboanga State College of Marine Sciences and Technology
Research, Innovation, & Extension Office
Fort Pilar, Zamboanga City
website: <http://www.vprii.edu.ph>

ZSCMST-TEO-4.1.1-4
Adopted Date: 01-2008
Revision Status: 2
Revision Date: 01-2024

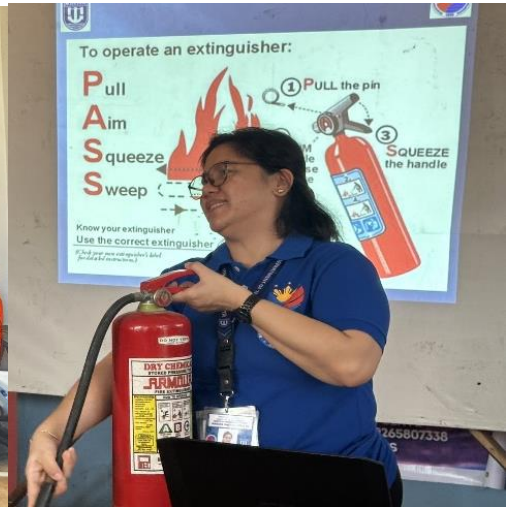
ATTENDANCE SHEET

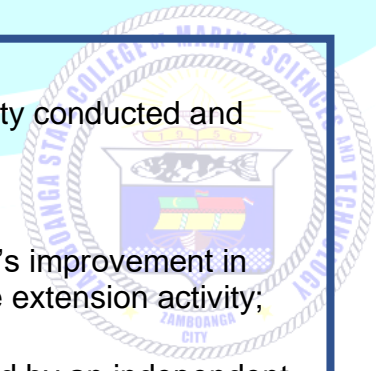
ACTIVITY: CME MARINO TECHS EXTENSION PROGRAM (WELDING AND WIRING) PHASE 3
VENUE : ZSCMST-CAMPUS A
DATE : November 9, 2024

N O.	AM		PM		SIGNATURE
	NAME	GEN. M F	OFFICE/AGENCY/ BARANGAY/SCHOOL	CONTACT NUMBER	
01.	ARIETA, ANGELOBERT P.			0921193041	
02.	WAN JUDE P. MARTINEZ		CME-FACULTY		
03.	ARNO, JOAN H.			0904040909	
04.	Ramos, Joseph M.			0922513438	
05.	Reyes, Jimwell I			0938495401	
06.	Estada, Trina Kate V.			0916093104	
07.	BALDADO, HAMILTON G.			09050004	
08.	Arca, Joshua G.			0932711033	
09.	BALDADO R. GARCIA			09050004	
10.	Reyes, Jimwell I			0938495401	
11.	ARAGON, JOEL A. JA.			0921498143	
12.	YANILLO Y. VICTOR		CME-FACULTY	0928889920	
13.	DEPIÑA, JESUS CRISTOPAL M.		CME-FACULTY	0926163713	
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15.	MARION OMBITAHN		TEO		
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3/6 WAN JUDE MARTINEZ
SECRETARIAT

Also conducted Basic Navigation and Seamanship course with Modified Basic Safety Training. A collaboration with MARINA Region 9 office. This aims to provide knowledge and understanding on Safety during navigation and life at sea to fisher folks and for them to acquire adequate training (**Modified Basic Safety Training**) for their application of Seaman's Booklet (For Seafarers under 35 gross tonnage ship/boat) thru MARINA.



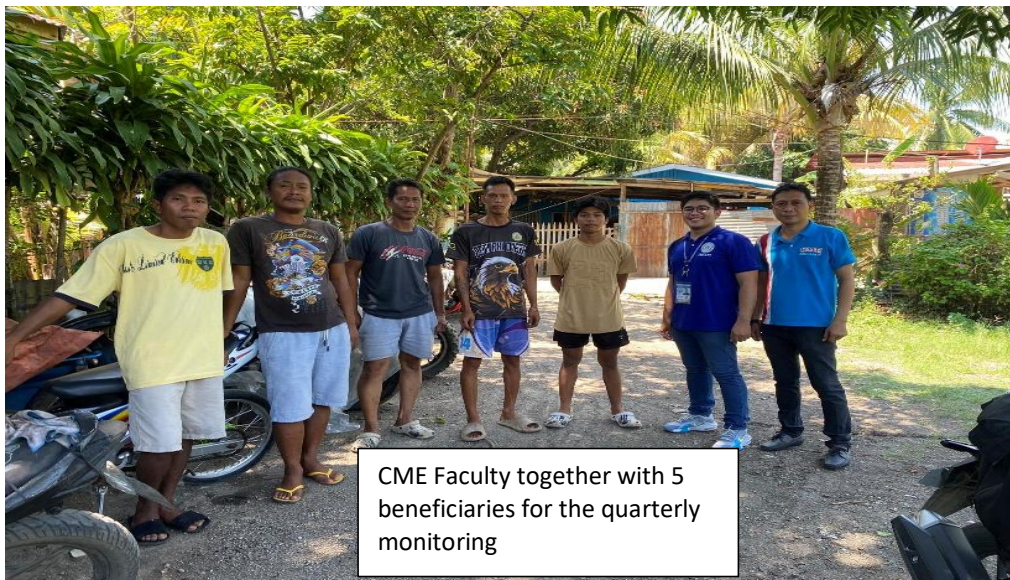


Mandatory Requirement 2:

2. The college should provide an Impact Assessment on the Extension Activity conducted and consider including the following:

- a. A cost-benefit analysis of the cited program's actual expenditures;
- b. A well-documented report demonstrating the beneficiary's or recipient's improvement in livelihood, economic, social, and other aspects of life as a result of the extension activity; and
- c. The impact assessment and/or cost benefit analysis may be conducted by an independent group or third party to ensure reliability and valid result.

- A face to face interview conducted on March 5, 2024 between the participants at Elisberto residence who is one of the beneficiary/Adapter of the MARINO Techs Welding program. We gathered 5 Adapters (4 for welding and 1 for wiring) and conducted interview one by one. During the interview, we found out that they were able to use the training given to them by means of having a sideline job and in their own day to day life. Although the income is not that big since it was just part of a sideline, but they intend to proceed for next phase which is a preparatory for TESDA accreditation which will grant them NC 1 and 2 certifications after passing the assessment. Three participants were interviewed thru phone call. Stated their income and status



CME Faculty together with 5 beneficiaries for the quarterly monitoring



Mr. Elisberto Arieta



Republic of the Philippines
ZAMBOANGA STATE COLLEGE OF MARINE SCIENCES AND TECHNOLOGY
Fort Pilar, Rio Hendo, Zamboanga City
Tel. No.: (062) 991-0644 Telefax (062) 991-0777 website: <http://www.zscmst.edu.ph>

COLLEGE OF MARITIME EDUCATION

MARCH 04, 2024

HON. LEONARD P. ALIANGAN
Barangay Chairman
Barangay Mampang, Zamboanga City

Dear Hon. Aliangan,

Warm greetings! We are writing to request your kind approval to **conduct monitoring activities in Barangay Mampang as part of our CME "MARINO Tech" Extension Program: welding and wiring training**

The monitoring activity is planned for March 5, 2024 and will focus on evaluating the progress of the project, gathering feedback from beneficiaries, and identifying opportunities for improvement. These efforts are essential to ensure that the project remains aligned with its goals and continues to make a positive impact on the community.

We kindly request your approval to proceed with this activity. Should you need additional information or wish to discuss this further, please feel free to contact us at 09668897415.

Thank you for your support and partnership in this meaningful endeavor. We look forward to your positive response.

Sincerely,

3/E Ivan Jude P. Martinez
CME Extension Coordinator
ZSCMST

OFFICE OF THE BRGY. COUNCIL
Mampang, Zamboanga City

RECEIVED

DATE: 03/14/24

BY: [Signature]

Position: [Signature]

Republic of the Philippines
ZAMBOANGA STATE COLLEGE OF MARINE SCIENCES & TECHNOLOGY
Fort Pilar Shrine, Zamboanga City 7000
COLLEGE OF MARITIME EDUCATION

MARINO TECHS
WELDING AND WIRING TRAINING

March 05, 2024

Dr. Jaime G. Jalon
College President
This College

Dear Dr. Jalon,

I am writing to formally request your approval to **conduct monitoring activities in Barangay Mampang as part of our ongoing CME "MARINO Tech" Extension Program: welding and wiring training** which aims to promote community development and provide livelihood training to the community of Barangay Mampang.

The monitoring activity is proposed to be conducted on March 5, 2024 and its purpose is to assess the progress of the initiatives implemented, gather feedback from the beneficiaries, and evaluate areas for improvement. This will ensure the continued effectiveness and relevance of the project to the needs of the community.

I respectfully seek your approval for this activity and would be glad to provide any additional information or documentation you may require. Thank you for your continued support in advancing the mission of our institution to contribute meaningfully to the community.

Looking forward to your favorable response.

Sincerely,

IVAN JUDE P. MARTINEZ
CME Extension Coordinator

Noted by: [Signature]
C/E CHRISTALYN DR. CHIONG
CME DEAN

APPROVED BY:
JAIME G. JALON, Ph.D.
COLLEGE PRESIDENT

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Letter to conduct monitoring at Barangay Mampang.

REPUBLIC OF THE PHILIPPINES
ZAMBOANGA CITY
BARANGAY MAMPANG

CERTIFICATION

This is to certify the following residents of Mampang were utilizing the training on Welding and Wiring as part of their jobs or sideline jobs for their source of income effective on December 17, 2024.

1. Elisberto Arieta
2. Jayvee Arieta
3. Rocelo Asajar
4. Ely Barrera
5. Jayson Cristobal

Issued this 5th day of March 2024 at Mampang, Zamboanga City.

[Signature]
GLENN DAGALEA
Kagawad In-charge

Noted by:
[Signature]
HON. LEONARD P. ALIANGAN
Barangay Chairman
Mampang, Zamboanga City

REPUBLIC OF THE PHILIPPINES
ZAMBOANGA CITY
BARANGAY MAMPANG

CERTIFICATE OF ATTENDANCE

This certifies that **IVAN JUDE MARTINEZ and RONILO JAYSON** has attended Monitoring Activity in Barangay Mampang as part of the **CME "MARINO Tech" Extension Program: Welding and Wiring training** conducted on **March 5, 2024** at **Juan Barrera Drive, Mampang, Zamboanga City.**

This activity was organized to support the objectives of **CME "MARINO Tech" Extension Program** in providing trainings, community service and livelihood programs.

Issued this 5th day of March, 2024.

[Signature]
HON. LEONARD P. ALIANGAN
Barangay Chairman

Certification for the participants who adopt the training and certificate of attendance to faculty who conducted the monitoring.



- for the additional sustainability program, a small shop was built at Elisberto's residence. It will be considered as a backyard shop which can help other participants to be the source of their income.

COLLEGE OF MARITIME EDUCATION

February 27, 2024
Georgelita Saberon
MEPFFI President
CME-ZSCMST


Dear Ma'am,

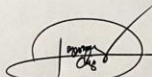
I hope this message finds you well. I am writing to formally request budget allocation from the MEP Foundation to support the continuation extension program which aims to build a small shop in compliance with the AACUP mandatory requirements. Here are the list and initial price of the items needed:

ITEM	QTY	Price	Total Price
1. C Parlin 2" x 3" Galvanize	8	720.00	5,760.00
2. GI Pipe Diameter 3" Schedule 40	2	3,465.00	6,930.00
3. Ribbit	1 pack	350.00	350.00
Grand total:			13,040.00

All items will be properly check and liquidate,

Thank you and hoping for your positive response.

Prepared by 
3/E Ivan Jude P. Martinez
CME Extension Coordinator

 2/27/24
C/E CHRISTALYN DR. CHIONG
CME DEAN



REQUESTION LETTER

Georgelita Saberon
MEPFFI President
CME-ZSCMST

Request for Additional Budget for Construction of Small Shop
Dear Ma'am,


I am writing to request an additional funding for the construction of a small shop dedicated to welding and wiring extension project. As we progress with the project, it has become evident that the initial request may not be sufficient to meet all the requirements for creating a safe and functional workspace. This project is essential to the upcoming AACUP visit this April 22, 2024.

The additional funds will be utilized for the purchase of cement, sand, gravels and other materials.

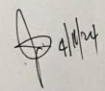
I have attached a detailed breakdown of the additional costs proposal for your review. Your support in this matter is crucial to the successful implementation of this project and the overall growth of our vocational education program.

Thank you for considering this request.

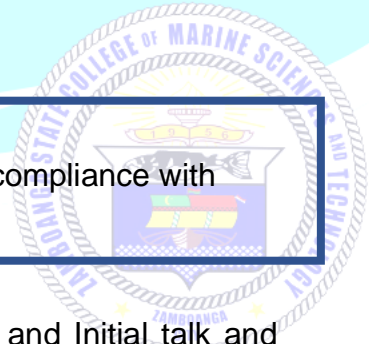
Sincerely,


3/E IVAN JUDE P. MARTINEZ
CME Extension Coordinator

Noted by:


C/E CHRISTALYN DR. CHIONG
CME DEAN

- Fund Request to MEPFFI (Maritime Education Parents and Faculty Foundation Inc.) for the construction of the MARINO Tech Small shop for sustainability program for the welding and wiring training adopters



Mandatory Requirement 3:

Conduct community-based skills and training extension initiatives that are in compliance with TESDA training Regulations.

TESDA visit for the Phase 3 of MARINO Techs welding and wiring program and Initial talk and inquiry for additional program such as machinist. The Phase 3 of the CME-Extension program MARINO Techs is a part where we prepare the participants for NC 1 and 2 TESDA assessment through various competency in compliance with TESDA Training regulations and Standards. Also visit MARINA Region 9 office for a partnership training titled "Basic Navigation and Seamanship Course" (BaNaSCo).



CME Faculty (3/E Ivan Jude Martinez and Engr. Ronilo Jayson) together with TESDA-ASSESSMENT In-Charge Mr. Paul Saavedra on what to prepare and conduct for the preparation on Assessment of the CME-Extension participants. The phase 3 aims of CME-Extension program MARINO Techs aim to train the participants on TESDA standard before proceeding to the assessment for NC 1 and 2 Welding and Wiring Certification.



National Certificate II for MACHINING and SHIELDED METAL ARC WELDING of Engr. Ronilo Jayson and Electronic products assembly and servicing Certificate of R/O Espina, the speakers and lead trainers for the Shielded Metal Arc welding and for the Machining training and Electrical Wiring Installation which conducted on June – October 2024.

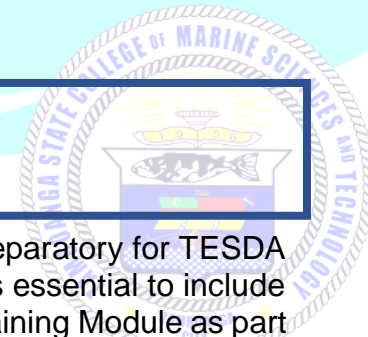


CME faculty (Captain Marnette Apit, 3/E Ivan Jude Martinez and Engr. Ronilo Jayson) together with MARINA Region 9 OIC-Director Dr. Farida A. Cunanan discussing the partnership to conduct Extension program the **Basic Navigation and Seamanship Course** for fisher folks at Barangay Mampang, which aims to provide knowledge and understanding on Safety during navigation and life at sea to fisher folks and for them to acquire adequate training (**Modified Basic Safety Training**) for their application of Seaman's Booklet (For Seafarers under 35 gross tonnage ship/boat) thru MARINA.

Mandatory Requirement 4

More research-based extension initiatives should be carried.

The Phase 3 program of MARINO Techs Welding and Wiring Program is a preparatory for TESDA Accreditation for the participants for an NC 1 and 2 certifications. With this, it is essential to include more technology to increase competence. We will include the Motor Control Training Module as part of the Wiring Training Objectives which is a Research Base Invention by Engr. Sina Sahidaini. The invention is now on its process for patent.



Published by :
<http://www.ijert.org>

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278- 0181
Vol. 7 Issue 10, October-2018

Electrical Power Quality Improvement through Modeling and Optimization of Passive Harmonic Filter

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Abstract— This paper studies on the harmonic distortion and the methods to mitigate the harmonics for a system with Load variation and different harmonic distortion level. A group of passive shunt filter are designed to reduce harmonic distortion and correct power factor. The proposed method optimize the group filter configuration which is suitable for load and distortion level variation to get best scenario out of passive harmonic filters. Maximum level for power factor as long as it is positive, consider as constraint and minimizing harmonics distortion index such as Total Harmonic Distortion (THD) and its Individual Harmonic Distortion (IHD) content are factors for objective function. Genetic Algorithm has been used as Optimization technique and software to simulate are MATLAB for genetic algorithm and ETAP for filter simulation in power system.

Keywords—Load Variation, Harmonic Distortion, Power Quality.

I. INTRODUCTION

Recently, there is an increasing concern about the environment. The need to generate pollution-free energy has triggered considerable effort toward renewable energy (RE). RE sources such as solar, wind, flowing water and biomass offer the promise of clean and abundant energy. They do not generate any greenhouse gases and are inexhaustible. Solar Power, in particular, is especially attractive for Philippines. In the era of renewable energy, wind power and solar Energy are mostly developed and matured technology around the globe. It is converted into a more convenient alternating current (AC) power through an inverter system [1]. Advance in technology of semiconductor devices has led to a revolution in electronic technology over the past decade and have more tendency in future. However rise in the Power Quality problem is due to power equipment which include adjustable-speed motor drives (ASDs), electronic power supplies, direct current (DC) motor drives, battery chargers, electronic ballasts. Power sources act as non-linear loads, drawing a distorted waveform that contains harmonics. These harmonics can cause problems ranging from telephone transmission interference to degradation of conductors and insulating material in motors and transformers. Therefore it is important to gauge the total effect of these harmonics [2]. Schwanz and Bollen have conducted a comprehensive review on solutions of harmonic

mitigation techniques using active and passive filters [3]. Jain and Sing estimated harmonics in modern power systems narrowing down key issues and challenges [4]. A paper presented by Adel M. Sharaf, Michael E. Fisher a novel optimization design technique for power system shunt filters to ensure harmonic reduction and noise mitigation on the electrical utility grid. The proposed filter design is based on the minimization of a composite objective function depicting the three main filter objectives of minimum harmonic current penetration into the electric grid system, maximum current absorption by the harmonic filter and minimum harmonic voltage distortion at points of common coupling.

Theory for the Design of C-type Filter by Yao XIAO, Jie ZHAO, Shijie MAO Based on the theoretical analysis, the paper introduces an algorithm for calculating the parameters of C-type filter that has not been published before. Firstly, the relationships of all parameters are established and discussed. Then, Parameters with least cost of the filter are also derived. Finally, the method is testified by the parameters of C-type filters having been used in some HVDC projects. Young-Sik Cho and Hanju Cha present how to select tuning factor and quality factor in designing of a single-tuned passive harmonic filter. Tuning factor and quality factor must be considered before a decision of filter parameters (R, L and C). Rampant rise in population, energy demand, economic growth and emissions have popularized renewable energy sources [6-7]. Flow of currents in longer HVDC and HVAC lines and overloaded distribution transformers cause line losses [8].

II. FILTER DESIGN

The most common type of passive filter is the single-tuned "notch" filter. This is the most economical type and is frequently sufficient for the application. The notch filter is series-tuned to present a low impedance to a particular harmonic current and is connected in shunt with the power system. Notch filters can provide power factor correction in addition to harmonic suppression. In fact, power factor correction capacitors may be used to make notch filters. The notch harmonic h notch is related to the fundamental frequency reactance by:

$$h_{\text{notch}} = \frac{X_c}{\sqrt{3X_F}} \quad (1)$$