

K to 12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL LIVELIHOOD TRACK
INDUSTRIAL ARTS – MASONRY (NC II)

These are the specializations and their pre-requisites. These lists should be used as reference for curriculum maps.

AGRI-FISHERY ARTS

	Specialization	Number of Hours	Pre-requisite
1.	Agricultural Crops Production (NC I)	320 hours	
2.	Agricultural Crops Production (NC II) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	640 hours	
3.	Agricultural Crops Production (NC III)	640 hours	Agricultural Crops Production (NC II)
4.	Animal Health Care Management (NC III)	320 hours	Animal Production (Poultry-Chicken) (NC II) or Animal Production (Ruminants) (NC II) or Animal Production (Swine) (NC II)
5.	Animal Production (Poultry-Chicken) (NC II) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	320 hours	
6.	Animal Production (Large Ruminants) (NC II) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	320 hours	
7.	Animal Production (Swine) (NC II) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	320 hours	
8.	Aquaculture (NC II)	640 hours	
9.	Artificial Insemination (Large Ruminants) (NC II)	160 hours	Animal Production (Large Ruminants) (NC II)
10.	Artificial Insemination (Swine) (NC II)	160 hours	Animal Production (Swine) (NC II)
11.	Fish Capture (NC II)	640 hours	
12.	Fishing Gear Repair and Maintenance (NC III)	320 hours	
13.	Fish-Products Packaging (NC II)	320 hours	
14.	Fish Wharf Operation (NC I)	160 hours	
15.	Food Processing (NC II)	640 hours	
16.	Horticulture (NC III)	640 hours	Agricultural Crops Production (NC II)
17.	Landscape Installation and Maintenance (NC II)	320 hours	
18.	Organic Agriculture (NC II)	320 hours	
19.	Pest Management (NC II)	320 hours	
20.	Rice Machinery Operations (NC II)	320 hours	
21.	Rubber Processing (NC II)	320 hours	
22.	Rubber Production (NC II)	320 hours	
23.	Slaughtering Operations (Hog/Swine/Pig) (NC II)	160 hours	

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HOME ECONOMICS

	Specialization	Number of Hours	Pre-requisite
1.	Attractions and Theme Parks Operations with Ecotourism (NC II)	160 hours	
2.	Barbering (NC II)	320 hours	
3.	Bartending (NC II)	320 hours	
4.	Beauty/Nail Care (NC II)	160 hours	
5.	Bread and Pastry Production (NC II)	160 hours	
6.	Caregiving (NC II)	640 hours	
7.	Commercial Cooking (NC III)	320 hours	Cookery (NC II)
8.	Cookery (NC II)	320 hours	
9.	Dressmaking (NC II)	320 hours	
10.	Events Management Services (NC III)	320 hours	
11.	Fashion Design (Apparel) (NC III)	640 hours	Dressmaking (NC II) or Tailoring (NC II)
12.	Food and Beverage Services (NC II) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	160 hours	
13.	Front Office Services (NC II)	160 hours	
14.	Hairdressing (NC II)	320 hours	
15.	Hairdressing (NC III)	640 hours	Hairdressing (NC II)
16.	Handicraft (Basketry, Macrame) (Non-NC)	160 hours	
17.	Handicraft (Fashion Accessories, Paper Craft) (Non-NC)	160 hours	
18.	Handicraft (Needlecraft) (Non-NC)	160 hours	
19.	Handicraft (Woodcraft, Leathercraft) (Non-NC)	160 hours	
20.	Housekeeping (NC II) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	160 hours	
21.	Local Guiding Services (NC II)	160 hours	
22.	Tailoring (NC II)	320 hours	
23.	Tourism Promotion Services (NC II)	160 hours	
24.	Travel Services (NC II)	160 hours	
25.	Wellness Massage (NC II)	160 hours	

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INDUSTRIAL ARTS

	Specialization	Number of Hours	Pre-requisite
1.	Automotive Servicing (NC I) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	640 hours	
2.	Automotive Servicing (NC II)	640 hours	Automotive Servicing (NC I)
3.	Carpentry (NC II)	640 hours	
4.	Carpentry (NC III)	320 hours	Carpentry (NC II)
5.	Construction Painting (NC II)	160 hours	
6.	Domestic Refrigeration and Air-conditioning (DOMRAC) Servicing (NC II)	640 hours	
7.	Driving (NC II)	160 hours	
8.	Electrical Installation and Maintenance (NC II)	640 hours	
9.	Electric Power Distribution Line Construction (NC II)	320 hours	Electrical Installation and Maintenance (NC II)
10.	Electronic Products Assembly and Servicing (NC II) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	640 hours	
11.	Furniture Making (Finishing) (NC II)	640 hours	
12.	Instrumentation and Control Servicing (NC II)	320 hours	Electronic Products Assembly and Servicing (EPAS) (NC II)
13.	Gas Metal Arc Welding (GMAW) (NC II)	320 hours	Shielded Metal Arc Welding (SMAW) (NC II)
14.	Gas Tungsten Arc Welding (GTAW) (NC II)	320 hours	Shielded Metal Arc Welding (GMAW) (NC II)
15.	Machining (NC I)	640 hours	
16.	Machining (NC II)	640 hours	Machining (NC I)
17.	Masonry (NC II)	320 hours	
18.	Mechatronics Servicing (NC II)	320 hours	Electronic Products Assembly and Servicing (EPAS) (NC II)
19.	Motorcycle/Small Engine Servicing (NC II)	320 hours	
20.	Plumbing (NC I)	320 hours	
21.	Plumbing (NC II)	320 hours	Plumbing (NC I)
22.	Refrigeration and Air-Conditioning (Packaged Air-Conditioning Unit [PACU]/Commercial Refrigeration Equipment [CRE]) Servicing (NC III)	640 hours	Domestic Refrigeration and Air-conditioning (DOMRAC) Servicing (NC II)
23.	Shielded Metal Arc Welding (NC I)	320 hours	
24.	Shielded Metal Arc Welding (NC II)	320 hours	Shielded Metal Arc Welding (NC I)
25.	Tile Setting (NC II)	320 hours	
26.	Transmission Line Installation and Maintenance (NC II)	640 hours	Electrical Installation and Maintenance (NC II)

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INFORMATION, COMMUNICATIONS AND TECHNOLOGY (ICT)

	Specialization	Number of Hours	Pre-requisite
1.	Animation (NC II)	320 hours	
2.	Broadband Installation (Fixed Wireless Systems) (NC II)	160 hours	Computer Systems Servicing (NC II)
3.	Computer Programming (.Net Technology) (NC III) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	320 hours	
4.	Computer Programming (Java) (NC III) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	320 hours	
5.	Computer Programming (Oracle Database) (NC III) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	320 hours	
6.	Computer Systems Servicing (NC II) <i>updated based on TESDA Training Regulations published December 28, 2007</i>	640 hours	
7.	Contact Center Services (NC II)	320 hours	
8.	Illustration (NC II)	320 hours	
9.	Medical Transcription (NC II)	320 hours	
10.	Technical Drafting (NC II)	320 hours	
11.	Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) (NC II)	320 hours	Computer Systems Servicing (NC II)
12.	Telecom OSP Installation (Fiber Optic Cable) (NC II)	160 hours	Computer Systems Servicing (NC II)

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INDUSTRIAL ARTS – MASONRY (NC II)
Grade 7/ 8 (Exploratory)

Course Description:

This is an exploratory and introductory course which leads to **Masonry** National Certificate Level II (NC II). It covers four common competencies that the **Grade 7/Grade 8** Technology and Livelihood Education (TLE) student should acquire: (1) using tools, equipment and paraphernalia, (2) performing mensuration and calculation; 3) practicing Occupational Health and Safety (OHS) procedures; and (4) interpreting technical drawing and plans.

The preliminaries of this exploratory course include the following: (1) discussion on the relevance of the course, (2) explanation of key concepts relative to the course, and (3) exploration of career opportunities.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
Introduction 1. Basic concepts in Masonry 2. Relevance of the course 3. Career opportunities	The learner demonstrates an understanding of the basic concepts and underlying theories in Masonry	The learner independently demonstrates common competencies in masonry as prescribed by TESDA Training Regulations.	1. Explain basic concepts in masonry 2. Discuss the relevance of the course 3. Explore career opportunities in masonry	
PERSONAL ENTREPRENEURIAL COMPETENCIES (PeCS)				
1. Assessment of Personal Entrepreneurial Competencies and Skills (PeCS) vis-à-vis a practicing entrepreneur/employee 1.1 Characteristics 1.2 Attributes 1.3 Lifestyle 1.4 Skills 1.5 Traits 2. Analysis of one's PeCS	The learner demonstrates an understanding of one's Personal Entrepreneurial Competencies and Skills (PeCS).	The learner recognizes his/her Personal Entrepreneurial Competencies and Skills (PeCS) and prepares a list of PeCS of a practitioner/entrepreneur in masonry.	LO 1. Recognize Personal Entrepreneurial Competencies and Skills (PeCS) needed in masonry 1.1 Assess one's PeCS: characteristics, attributes, lifestyle, skills, traits 1.2 Assess practitioner's: characteristics, attributes, lifestyle, skills, traits 1.3 Compare one's PeCS with those of a practitioner /entrepreneur	TLE_ PECS7/8-00-1
ENVIRONMENT AND MARKET (EM)				
1. Key concepts of Environment and Market 2. Products & services available in the market	The learner demonstrates an understanding of the concepts environment and market and how they	The learner independently generates a business idea based on the analysis of	LO 1. Generate a business idea that relates with a career choice in Masonry 1.1 Conduct SWOT analysis	TLE_EM7/8-00-1

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
3. Differentiation of products and services 4. Customers and their buying habits 5. Competition in the market 6. SWOT Analysis	relate to a career choice in Masonry.	environment and market in Masonry.	1.2 Identify the different products/services available in the market 1.3 Compare different products/services in Masonry business 1.4 Determine the profile potential customers 1.5 Determine the profile potential competitors 1.6 Generate potential business idea based on the SWOT analysis	
LESSON 1: PREPARE CONSTRUCTION MATERIALS AND TOOLS (UT)				
1. Masonry and materials 2. Job order and requisition slips 3. Materials management	The learner demonstrates an understanding of concepts in the preparation of materials and tools using the different forms in masonry.	The learner independently prepares appropriate masonry materials and tools using the different forms in tile setting based on industry standards.	LO 1. Prepare masonry materials and tools for the task 1.1 Prepare a list of masonry tools and materials for a specific job	TLE_IAMS7/8UT-0a-1
			LO 2. Request appropriate masonry supplies materials and tools applicable to a specific job 2.1 Use the appropriate form in requesting for masonry tools, supplies and materials for a specific job	TLE_IAMS7/8UT-0b-2
			LO 3. Receive and inspect masonry supplies, materials and tools 3.1. Check and inspect received items on the list	TLE_IAMS7/8UT-0b-3

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
LESSON 2: OBSERVE PROCEDURE, SPECIFICATIONS AND MANUALS OF INSTRUCTIONS (ID)				
1. Types of masonry works 2. Signs and symbols 3. Specifications in the work plan	The learner demonstrates an understanding of the concepts and underlying principles in interpreting simple technical drawings and plans in tile setting.	The learner independently reads and interprets specifications of simple technical drawings and plans.	LO 1. Analyze signs, masonry symbols and data 1.1 Read and interpret masonry signs, symbols and data 1.2 Analyze materials based on masonry signs, symbols and data	TLE_IAMS7/8ID-0c-1
			LO 2. Interpret technical drawings and plans 2.1 Read blueprints of masonry plans, diagrams and circuits 2.2 Identify necessary tools, materials and equipment according to blueprints of masonry plans, diagrams and circuits	TLE_IAMS7/8ID-0d-2
LESSON 3: PERFORM MENSURATION AND CALCULATIONS (MC)				
1. Visualizing objects and shapes specifically geometric shapes 2. Interpreting formulas for volume, areas, and perimeters of plane and geometric figures 3. Measuring Instruments/Measuring Tools	The learner demonstrates an understanding of the concepts and underlying principles in performing measurements and calculations.	The learner independently performs accurate measurements and calculation based on given tasks.	LO 1. Select masonry measuring tools and instruments 1.1 Identify object or material to be measured 1.2 Choose measuring tools to be used for specific tasks 1.3 Identify alternative measuring tools without sacrificing cost and quality of work	TLE_IAMS7/8MC-0e-1

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
4. Proper handling of measuring instruments			LO 2. Carry out measurements and calculations 2.1 Use appropriate measuring devices for specific tasks 2.2 Compute for required data 2.3 Convert data to its equivalent measure	TLE_IAMS7/8MC-0f-2
LESSON 4: MAINTAIN TOOLS AND EQUIPMENT (MT)				
1 Hazards and risks. 2 Safety Regulations. 3 5S	The learner demonstrates an understanding of the underlying principles in the maintenance of tile setting tools and equipment.	The learner independently performs proper maintenance of tile setting tools and equipment based on industry standards.	LO 1. Check condition of tools and equipment 1.1 Label functional and non-functional tools and equipment	TLE_IAMS7/8MT-0g-1
			LO 2. Perform basic maintenance 2.1 Perform cleaning and lubricating of tools 2.2 Observe periodic preventive and maintenance of tile setting tools and equipment 2.2.1 Sharpening 2.2.2 Oiling 2.2.3 Insulating	TLE_IAMS7/8MT-0g-2
			LO 3. Store tools and equipment 3.1. Prepare inventory of tools and equipment 3.2. Store tools and equipment in their proper places	TLE_IAMS7/8MT-0h-3

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
LESSON 5: PRACTICE OCCUPATIONAL HEALTH AND SAFETY PROCEDURE (OS)				
1. Philippine OHS standards of hazards in the workplace 2. Safety regulations 3. Operational health and safety procedures, practices and regulations	The learner demonstrates an understanding of the concepts and underlying principles of occupational health and safety procedures.	The learner independently simulates occupational health and safety procedures.	LO 1. Identify hazards and risks 1.1 List down hazards and risks in the workplace	TLE_IAMS7/8OS-0i-1
			LO 2. Control hazards and risks 2.1 Determine effects of hazards and risks 2.2 Evaluate hazards and risks 2.3 Follow procedure for controlling hazards and risks in the workplace	TLE_IAMS7/8OS-0h-i-2
			LO 3. Practice OHSP	TLE_IAMS7/8OS-0j-3

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INDUSTRIAL ARTS – MASONRY (NC II)
(160 hours)

Course Description:

This course is composed of the core competencies which lead to a **Masonry** National Certificate Level II (NCII). It covers performing basic masonry works and preparing masonry materials. This also covers the knowledge, skills and attitude required to perform basic masonry works and prepare masonry materials.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
Introduction 1. Basic concepts in masonry 2. Relevance of the course 3. Career opportunities	The learner demonstrates an understanding of the basic concepts and underlying theories in masonry.	The learner independently demonstrates core competencies in masonry as prescribed by TESDA Training Regulations.	1. Explain basic concepts in masonry 2. Discuss the relevance of the course 3. Explore career opportunities in masonry	
PERSONAL ENTREPRENEURIAL COMPETENCIES (PECS)				
1. Assessment of Personal Competencies and Skills (PeCS) vis-à-vis a practicing entrepreneur/employee in locality/town 1.1 Characteristics 1.2 Attributes 1.3 Lifestyle 1.4 Skills 1.5 Traits 2. Analysis of PeCS in relation to a practitioner 3. Align, strengthen and develop ones PeCS based on the results	The learner demonstrates an understanding of one's Personal Competencies and Skills (PeCS) in Masonry.	The learner recognizes his/her Personal Entrepreneurial Competencies and Skills (PeCS) and prepares an activity plan that aligns with that of a practitioner/entrepreneur in Masonry.	LO 1. Recognize Personal Entrepreneurial Competencies and Skills (PeCS) needed in masonry 1.1 Assess one's PeCS: characteristics, attributes, lifestyle, skills, traits 1.2 Assess practitioner's: characteristics, attributes, lifestyle, skills, traits 1.3 Compare one's PECSS with that of a practitioner /entrepreneur 1.4 Align one's PECSS with that of a practitioner/entrepreneur	TLE_PECS 9-12-IO-1

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
ENVIRONMENT AND MARKET (EM)				
Market (Town) 1. Key concepts of Market 2. Players in the Market (Competitors) 3. Products & services available in the market	The learner demonstrates an understanding of the concepts environment and market in the field of masonry, particularly in one's town/municipality.	The learner independently creates a business vicinity map reflective of the potential masonry market within the locality/town.	LO 1. Recognize and understand the market in Masonry 1.1 Identify the players/ competitors within the town 1.2 Identify the different products/services available in the market	TLE_EM9-12-I0-1
Market (Customer) 4. Key concepts in Identifying and Understanding the Consumer 5. Consumer Analysis through: 5.1 Observation 5.2 Interviews 5.3 Focus group discussion (FGD) 5.4 Survey			LO 2. Recognize the potential customer/market in Masonry 2.1 Identify profile of potential customers 2.2 Identify customer's needs and wants through consumer analysis 2.3 Conduct consumer/market analysis	TLE_EM9-12-II0-2
6. Generating Business Ideas 6.1 Key concepts in Generating Business Ideas 6.2 Knowledge, skills, passions and interests 6.3 new applications 6.4 Irritants 6.5 Striking ideas (new concept) 6.6 Serendipity Walk			LO 3. Create new business ideas in the masonry business by using various techniques 3.1 Explore ways of generating business idea from one's own characteristics/attributes 3.2 Generate business ideas using product innovation from irritants, trends and emerging needs 3.3 Generate business ideas using Serendipity Walk	TLE_EM9-12III0-IV0-3

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
PREPARE MASONRY MATERIALS (MM)				
1. Types of concrete blocks, bricks, cement and aggregates 2. Types of mixture 3. Types of masonry anchors, ties and reinforcements 4. Form works and platforms 5. Scaffoldings, construction elements and materials 6. Properties of masonry materials 7. Filling-up of forms 8. Mixture and proportion 9. types and uses of hauling tools, equipment and PPE 10. procedures in handling construction materials 11. storage of construction materials	The learner demonstrates an understanding of the underlying principles in preparing masonry materials.	The learner independently prepares masonry materials according to workplace practices.	LO 1. Select tools, equipment and materials needed in hauling and mixing 1.1 Identify tools, materials and equipment used in hauling according to work requirements 1.2 Identify tools, materials and equipment used in mixing according to work requirements 1.3 Determine quantity and quality of material to be hauled according to the job requirement 1.4 Inspect materials to be used in accordance with the job requirement	TLE_IAMS 9-12MM-Ia-h-1
			LO 2. Haul materials 2.1 Check availability and serviceability of hauling equipment 2.2 Haul construction materials 2.3 Stockpile required construction materials based on standard operating procedure 2.4 Observe safe handling of construction materials 2.5 Use appropriate PPE	TLE_IAMS 9-12MM-Ii-IIb-2
12. Mixing proportions of concrete/mortar 13. Uses and proper handling of mixing tools and equipment			LO 3. Mix mortar/concrete 3.1 Check mixing tools and equipment 3.2 Determine quantity of construction aggregates 3.3 Mix mortar/concrete based on proportion and consistency 3.4 Observe the proper procedure in mixing mortar/concrete	TLE_IAMS 9-12MM-IIc-j-3

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
PERFORM BASIC MASONRY WORKS (MW)				
1. Classification of masonry anchors, ties and reinforcements, 2. Fabrication procedures of reinforcement bars 3. Properties of metal 4. Corrosion 5. Composition of metals 6. Thermal expansion of materials 7. Basic operations 8. Linear measurements 9. Conversion of units 10. Angles 11. Fractions 12. Decimals 13. Following oral and written instructions	The learner demonstrates an understanding of the concepts and underlying principles in performing basic masonry works.	The learner independently performs basic masonry works based on job description.	LO 1. Perform re-bar fabrication and installation 1.1 Identify steel bars to be used in re-bar fabrication and installation 1.2 Measure steel bar according to given task 1.3 Cut and bend steel bars according to given task 1.4 Fabricate re-bar based on job requirement 1.5 Install fabricated re-bars based on job requirement 1.6 Observe safety precautions	TLE_IAMS 9-12MW-IIIa-d-1
14. Components of steel/wooden scaffoldings 15. Advantages and disadvantages of steel/wooden scaffoldings 16. Procedures in erecting and dismantling scaffoldings 17. Scaffolding safety practices 18. Safekeeping of scaffoldings 19. Characteristics of steel and lumber			LO 2. Erect and dismantle scaffoldings (1.8 m and below) 2.1 Check components of scaffolding based on job requirement 2.2 Erect scaffolding based on job requirements 2.3 Dismantle scaffolding in accordance with safety practices 2.4 Stockpile components of scaffolding. 2.5 Observe safety precaution 2.6 Use appropriate PPE	TLE_IAMS 9-12MW-IIIe-h-2

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
20. Equilibrium of forces 21. Linear measurements 22. Mensuration 23. Conversion of units 24. Fractions 25. Receiving and responding to workplace communication 26. Preparing inventory reports 27. Types, parts, shape and uses of formworks 28. Proper stockpiling of formworks 29. Formwork fabrication procedures 30. Techniques in installing formworks 31. Procedures in stripping formworks 32. Formworks preservation 33. Properties of metal 34. Corrosion 35. Composition of metals 36. Basic operations 37. Linear measurements 38. Conversion of units 39. Fractions and decimal 40. Following oral and written instructions			LO 3. Perform fabrication, installation and stripping of formworks 3.1 Identify fabrication and installation of formworks materials 3.2 Measure formworks materials 3.3 Cut materials according to specified requirement 3.4 Perform fabrication of materials into forms or stiffener columns and lintel beams 3.5 Install formworks 3.6 Observe safety precaution 3.7 Use appropriate PPE	TLE_IAMS 9-12MW- IIIi-j-3

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
41. Procedures in excavating and backfilling 42. Types of soil 43. Excavation tools and their uses 44. Types of filling materials 45. Characteristics of soil 46. Types and composition of soil 47. Layers of soil 48. Linear measurements 49. Mensuration 50. Reading scales 51. Receiving and responding to workplace communication 52. Slump test requirements 53. Concrete pouring procedure 54. Curing of concrete and mortar 55. Breaking strength 56. Properties of concrete			LO 4. Perform excavation and basic filling/compaction 4.1 Prepare area for excavation according to the job requirement 4.2 Perform excavation according to the required width and depth 4.3 Perform backfilling and compaction after concreting of wall footing and blocks installed up to ground level 4.4 Observe safety precaution 4.5 Use appropriate PPE	TLE_IAMS 9-12MW- IVa-d-4
			LO 5. Perform concreting work 5.1 Perform concreting of wall footing, stiffener, columns and lintel beams based on line and grade 5.2 Perform consolidation of concrete 5.3 Observe safety precaution 5.4 Use appropriate PPE	TLE_IAMS 9-12MW- IVe-h-5

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
57. Thermal expansion of materials 58. Ratio and proportion 59. Interpretation and conversion of units 60. Verbal/non-verbal communication 61. 5S of good housekeeping 62. methods of proper waste disposal 63. wastes and pollution 64. basic four fundamental operations 65. filling-up forms 66. reporting			LO 6. Perform housekeeping 1.1 Recover materials such as excess re-bars, scaffoldings and formworks 1.2 Stockpile recovered materials 1.3 Perform housekeeping 1.4 Use appropriate PPE	TLE_IAMS 9-12MW- IVi-j-6

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(160 hours)

Course Description:

This course is composed of the core competencies which lead to **Masonry** National Certificate Level II (NCII). It covers lay brick/block for structure, plastering concrete/masonry surface and installing precast balusters and handrails. This also covers the knowledge, skills and attitude required to perform basic masonry works and prepare masonry materials.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
Introduction 1. Basic concepts in masonry 2. Relevance of the course 3. Career opportunities	The learner demonstrates an understanding of the basic concepts and underlying theories in masonry.	The learner independently demonstrates core competencies in masonry as prescribed by TESDA Training Regulations.	1. Explain basic concepts in masonry 2. Discuss the relevance of the course 3. Explore on opportunities for masonry as a career	
PERSONAL ENTREPRENEURIAL COMPETENCIES (PECS)				
1. Assessment of learner’s Personal Competencies and Skills (PeCS) vis-à-vis PeCS of a practicing entrepreneur/employee in a province. 1.1 Characteristics 1.2 Attributes 1.3 Lifestyle 1.4 Skills 1.5 Traits 2. Analysis of PeCS in relation to a practitioner 3. Strengthening and further development of one’s PeCS	The learner demonstrates an understanding of one’s Personal Competencies and Skills (PeCS) in masonry.	The learner independently creates a plan of action that strengthens/ further develops one’s PeCS in masonry.	LO 1. Develop and strengthen personal competencies and skills (PeCS) needed masonry 1.1 Identify areas for improvement, development and growth 1.2 Align one’s PeCS according to his/her business/career choice 1.3 Create a plan of action that ensures success of his/her business/career choice	TLE_PECS9-12-IO-8

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
ENVIRONMENT AND MARKET (EM)				
1. Product Development 2. Key concepts of developing a product 3. Finding Value 4. Innovation 4.1 Unique Selling 4.2 Proposition (USP)	The learner demonstrates an understanding of the concepts environment and market in the field of masonry, particularly in one’s town/municipality.	The learner independently creates a business vicinity map reflective of potential Masonry market within the locality/town.	LO 1. Develop a product/ service in Masonry 1.1 Identify what is of “Value” to the customer 1.2 Identify the customer 1.3 Explain what makes a product unique and competitive 1.4 Apply creative and innovative techniques to develop marketable product 1.5 Employ a Unique Selling Proposition (USP) to the product/service	TLE_EM9-12-IO-II0-1
5. Selecting Business Idea 6. Key concepts of Selecting a Business Idea 6.1 Criteria 6.2 Techniques			LO 2. Select a business idea based on the criteria and techniques set 2.1 Enumerate various criteria and steps in selecting a business idea 2.2 Apply the criteria/steps in selecting a viable business idea 2.3 Determine a business idea based on the criteria/techniques set	TLE_EM9-12-III0-2
7. Branding			LO 3. Develop a brand for the product 3.1 Identify the benefits of having a good brand 3.2 Enumerate recognizable brands in the town/province 3.3 Enumerate the criteria for developing a brand 3.4 Generate a clear appealing product brand	TLE_EM9-12-IV0-3
LAY BRICK/BLOCK FOR STRUCTURE (LB)				
1. Classification of work plans	The learner demonstrates an understanding of the		LO 1. Prepare for laying brick/block for structure	TLE_IAMS9-12LB-Ia-f-1

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
2. Interpretation of work plans 3. Brick/block laying tools and equipment 4. Proper storing of materials 5. Composition of bricks/block 6. Characteristic of soils 7. Effects of heat 8. Basic operations 9. Mensuration 10. Ratio and proportion 11. Preparing, reading and interpreting work plans	concepts and underlying principles in laying brick/block for structure.	The learner independently lays brick/block for structure based on job requirements.	1.1 Interpret plan of a brick/block structure 1.2 Select tools, materials and equipment 1.3 Stockpile materials for laying brick/block structure	
12. Reference building lines 13. Brick/block laying tolerances 14. Proper housekeeping practices 15. Basic structural bonds and Joints 16. Classification of concrete masonry units 17. Geographical orientation 18. Topographical conditions 19. Mensuration 20. Basic operations 21. Reading and interpreting graphs and conversion tables 22. Receiving and responding to workplace communication			LO 2. Lay-out/establish brick/block structure location 2.1 Identify reference building lines 2.2 Establish location of brick/block structure based on reference building lines 2.3 Lay-out brick/block structure according to job specifications	TLE_IAMS9-12LB-Ig-j-2

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
23. Selection and use of appropriate PPE. 24. Procedures in installing horizontal/vertical guide for brick/block 25. Reinforcement bars/dowel Sizes 26. Brick/block laying procedures 27. OHS regulations 28. Geographical orientation 29. Mensuration 30. Basic operations 31. Reading and interpreting graphs and tables 32. Receiving and responding to workplace communication			LO 3. Perform laying brick/block for structure 3.1 Install horizontal/vertical guide for brick/block structure 3.2 Install reinforcing bar/dowel 3.3 Spread mortars on the base edge of brick/block 3.4 Position brick/block according to design/specification/location 3.5 Check plumbness during brick/block laying 3.6 Perform housekeeping 3.7 Use appropriate PPE	TLE_IAMS9-12LB-IIa-f-3
33. Standard operating procedures 34. Proper housekeeping practices 35. Recycling 36. Basic operations			LO 4. Complete laying of brick/block for structure 4.1 Cast-in place concrete structures are constructed according to design and job specifications 4.2 Inspect the work to ensure conformity with requirements 4.3 Perform housekeeping 4.4 Use appropriate PPE	TLE_IAMS9-12LB-IIg-j-4
PLASTERING CONCRETE/MASONRY SURFACE (PC)				
1. Preparation and selection of tools, equipment and materials 2. Preparation of wall surface for plastering	The learner demonstrates an understanding of the underlying principles in plastering wall surface.	The learner independently plasters wall surfaces based on job requirements.	LO 1. Prepare concrete/masonry surfaces for plastering 1.1 Select tool, materials and equipment 1.2 Perform wall surface preparations	TLE_IAMS9-12PC-IIIa-d-3

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
3. Composition and properties of concrete/masonry materials 4. Climatic conditions 5. Basic operations 6. Mensuration 7. Conversion of units 8. Receiving and responding to workplace communication				
9. Interpretation of plans and details 10. Selection and preparation of materials and tools for plastering 11. Mixing proportion of plaster mortar 12. Proper storing of materials 13. Texture of concrete and masonry surfaces 14. Interpretation of plans and details 15. Mensuration			LO 2. Prepare for plastering concrete 2.1 Interpret plans and details 2.2 Select tools, materials and equipment in line with job requirements 2.3 Store/stockpile materials for plastering	TLE_IAMS9-12PC-IIIe-f-2
16. Procedures of plastering 17. Plastering techniques 18. OHS regulations 19. Climatic conditions 20. Health hazards 21. Recycling 22. Waste and pollution 23. Linear measurements 24. Mensuration			LO 3. Perform plastering work 3.1 Determine the required thickness, plumbness, squareness, levelness and alignment of structure. 3.2 Distribute mortar/coating on the wall surface 3.3 Use appropriate PPE 3.4 Observe safety precaution	TLE_IAMS9-12PC-IIIg-j-3

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
25. Standard operating procedures 26. Proper housekeeping practices 27. Masonry materials preservation 28. Recycling 29. Basic calculations 30. Mensurations 31. Filling-up forms 32. Reporting			LO 4. Complete plastering work 4.1 Complete plastering work according to job specification 4.2 Perform housekeeping 4.3 Use appropriate PPE	TLE_IAMS9-12PC-IVa-d-4
INSTALLING PRE-CAST BALUSTERS AND HANDRAILS (IB)				
1. Interpretation of plans and details 2. Preparing And Selecting Materials Tools And Equipment 3. Proper Storing Of Materials 4. Mixing Proportion Of Materials 5. Phases Of Matter 6. Interpretation Of Plans And Details 7. Linear Measurements 8. Basic Operations	The learner demonstrates an understanding of the underlying principles of installing pre-cast balusters and handrail.	The learner independently installs pre-cast balusters and handrail based on job requirements.	LO 1. Prepare for installing pre-cast balusters and handrails 1.1 Interpret plans and drawings 1.2 Select tools, materials and equipment 1.3 Stockpile materials 1.4 Establish location of pre-cast balusters based on a given task	TLE_IAMS9-12IB-IVe-f-5

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
9. Lay outing/markings distance of balusters 10. Checking alignment of balusters 11. Mortar application 12. PPE 13. OHS regulations 14. Geographical conditions 15. Climatic conditions 16. Force, power and energy 17. Conversion of units 18. Linear/angular measurements			LO 2. Perform pre-cast baluster and handrail installation 2.1 Lay-out and mark pre-cast baluster according to job requirements 2.2 Align precast baluster and handrail according to job requirements 2.3 Apply mortar to pre-cast baluster and handrails 2.4 Use appropriate PPE 2.5 Perform housekeeping	TLE_IAMS9-12IB-IVg-h-2
19. Standard operating procedures 20. Proper housekeeping practices 21. Masonry materials preservation 22. Recycling 23. Basic calculations 24. Mensurations 25. Filling-up forms 26. Reporting			LO 3. Complete installation of pre-cast baluster and handrail 3.1 Conduct final checking to ensure conformity with job requirements 3.2 Conduct final installation of pre-cast baluster and handrail 3.3 Perform housekeeping	TLE_IAMS9-12IB-IVi-j-3

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Code Book Legend

Sample: TLE_IAMS7/8UT-0a-1

LEGEND		SAMPLE		DOMAIN/ COMPONENT	CODE
First Entry	Learning Area and Strand/ Subject or Specialization	Technology and Livelihood Education_Industrial Arts Masonry	TLE_IA MS 7/8	Personal Entrepreneurial Skills	PECS
	Grade Level	Grade 7/8		Environment and Marketing	EM
Uppercase Letter/s	Domain/Content/ Component/ Topic	Prepare Construction Materials and Tools	UT	Prepare Construction Materials and Tools	UT
				Perform Mensuration and Basic Calculation	MC
			-	Maintain Tools and Equipment	MT
Roman Numeral <i>*Zero if no specific quarter</i>	Quarter	No Specific Quarter	0	Practice Occupational Health and Safety Procedure	OS
Lowercase Letter/s <i>*Put a hyphen (-) in between letters to indicate more than a specific week</i>	Week	Week One	a	Prepare Masonry Materials	MM
			-	Perform Basic Masonry Works	MW
			-	Lay Brick/Block for Structure	LB
Arabic Number	Competency	Prepare masonry materials and tools for the task	1	Plastering Concrete/ Masonry Surface	PC
				Installing Pre-Cast Balusters and Handrails	IB

Technology-Livelihood Education and Technical-Vocational Track specializations may be taken between Grades 9 to 12.

Schools may offer specializations from the four strands as long as the minimum number of hours for each specialization is met.

Please refer to the sample Curriculum Map on the next page for the number of semesters per Industrial Arts specialization and those that have pre-requisites. Curriculum Maps may be modified according to specializations offered by a school.

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GRADE 7/8 (EXPLORATORY)		SAMPLE INDUSTRIAL ARTS CURRICULUM MAP** (as of May 2016)		GRADES 9-12		
EXPLORATORY			Automotive Servicing (NC I)* <small>updated based on TESDA Training Regulations published December</small>		8 sems	
			*Automotive Servicing (NC II)		8 sems	
			Motorcycle/Small Engine Servicing (NC II) 4 sems	Driving (NC II) 2 sems		
			Electronic Products Assembly and Servicing (NC II)* <small>updated based on TESDA Training Regulations published December 28, 2013</small>		8 sems	
				*Mechatronics Servicing (NC II)		4 sems
				*Instrumentation Control and Servicing (NC II)		4 sems
				Electrical Installation and Maintenance (NC II)		8 sems
				*Electrical Power Line Distribution Line Construction (NC II)		4 sems
				*Transmission Line Installation and Maintenance (NC II)		8 sems
				Machining (NC I)		8 sems
				*Machining (NC II)		8 sems
			Plumbing (NC I) 4 sems	*Plumbing (NC II)		4 sems
				Domestic Refrigeration and Air-conditioning Servicing (NC II)		8 sems
				*Refrigeration and Air-conditioning Servicing (PACU/CRE) (NC III)		8 sems
			Shielded Metal Arc Welding (NC I) 4 sems	*Shielded Metal Arc Welding (NC II)		4 sems
				*Gas Metal Arc Welding (GMAW) (NC II)		4 sems
				*Gas Tungsten Arc Welding (GTAW) (NC II)		4 sems
				Carpentry (NC II)		8 sems
			*Carpentry (NC III) 4 sems	Construction Painting (NC II) 2 sems		
				Furniture Making (Finishing) (NC II)		8 sems
		Masonry (NC II) 4 sems	Tile Setting (NC II)		4 sems	

* Please note that these subjects have pre-requisites mentioned in the CG.

+ CG updated based on new Training Regulations of TESDA.

Other specializations with no prerequisites may be taken up during these semesters.

Pre-requisites of the subjects to the right should be taken up during these semesters.

****This is just a sample. Schools make their own curriculum maps considering the specializations to be offered. Subjects may be taken up at any point during Grades 9-12.**

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Reference:

Technical Education and Skills Development Authority (TESDA). *Masonry NC I & II*. Compiled by the Skills Standards and Certification Office. Series 2011. Taguig City: Philippines. TESDA, 2011.