

**K to 12 BASIC EDUCATION CURRICULUM**  
**JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK**  
**INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

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

**AGRI-FISHERY ARTS**

	<b>Specialization</b>	<b>Number of Hours</b>	<b>Pre-requisite</b>
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	

**K to 12 BASIC EDUCATION CURRICULUM**  
**JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK**  
**INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

**HOME ECONOMICS**

	<b>Specialization</b>	<b>Number of Hours</b>	<b>Pre-requisite</b>
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	

**K to 12 BASIC EDUCATION CURRICULUM**  
**JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK**  
**INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

**INDUSTRIAL ARTS**

	<b>Specialization</b>	<b>Number of Hours</b>	<b>Pre-requisite</b>
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)

**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

**INFORMATION, COMMUNICATIONS AND TECHNOLOGY (ICT)**

	<b>Specialization</b>	<b>Number of Hours</b>	<b>Pre-requisite</b>
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)

**K to 12 BASIC EDUCATION CURRICULUM**  
**JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK**  
**INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**  
**Grade 7/Grade 8 (Exploratory)**

**Course Description:**

This is an exploratory and introductory course that leads to a **Technical Drafting** National Certificate Level II (NC II). It covers **five (5)** common competencies that a **Grade 7/Grade 8** Technology and Livelihood Education (TLE) student ought to possess, namely: 1) use of tools and equipment; 2) maintaining tools, drawing instruments, equipment, and paraphernalia; 3) performing mensuration and calculation; 4) interpreting technical drawing and plans; and 5) practicing Occupational Health and Safety (OHS) procedures.

The preliminaries of this exploratory course include the following: 1) discussion of 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	LEARNING MATERIALS
<b>Introduction</b> 1. Relevance of the course 2. Basic concepts in Technical Drafting 3. Career opportunities	The learners demonstrate an understanding of basic concepts and theories in Technical Drafting	The learners shall be able to demonstrate common competencies in Technical Drafting as prescribed by the TESDA Training Regulations	<i>The learners...</i> 1. Discuss the relevance of the course 2. Explain basic concepts in Technical Drafting 3. Explore opportunities for a career in Technical Drafting		
<b>LESSON 1: PERSONAL ENTREPRENEURIAL COMPETENCIES (PECS)</b>					
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 PECs in relation to a practitioner	The learners demonstrate an understanding of one's PECs.	The learners shall be able to recognize his/her PECs and prepares an activity plan that aligns with that of a practitioner/entrepreneur in Technical Drafting	<b>LO 1. Recognize PECs needed in Technical Drafting</b> 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 1.4 Align one's PECs with those of a practitioner/entrepreneur	<b>TLE_PECs7/8-00-1</b>	T.H.E IV Business Technology Business Management II 1994. pp. 6-7

**K to 12 BASIC EDUCATION CURRICULUM  
JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b>	<b>PERFORMANCE STANDARD</b>	<b>LEARNING COMPETENCIES</b>	<b>CODE</b>	<b>LEARNING MATERIALS</b>
<b>LESSON 2: ENVIRONMENT AND MARKET (EM)</b>					
<ol style="list-style-type: none"> <li>1. Key concepts in Environment and Market</li> <li>2. Products and services available in the market</li> <li>3. Differentiation of products and services</li> <li>4. Customers and their buying habits</li> <li>5. Competition in the market</li> <li>6. SWOT Analysis</li> </ol>	The learners demonstrate an understanding of environment and market that relate with a career choice in Technical Drafting	The learners shall be able to generate a business idea based on the analysis of environment and market in Technical Drafting	<b>LO 1. Generate a business idea that relates with a career choice in Technical Drafting</b> <ol style="list-style-type: none"> <li>1.1 Conduct SWOT analysis</li> <li>1.2 Identify the different products/services available in the market</li> <li>1.3 Compare different products/services in Technical Drafting business</li> <li>1.4 Determine the profile potential customers</li> <li>1.5 Determine the profile potential competitors</li> <li>1.6 Generate potential business idea based on the SWOT analysis</li> </ol>	<b>TLE_EM7/8-00-1</b>	
<b>LESSON 3: USE OF TOOLS AND EQUIPMENT (UT)</b>					
<ol style="list-style-type: none"> <li>1. Hand tools in Technical Drafting</li> <li>2. Equipment in Technical Drafting</li> </ol>	The learners demonstrate an understanding of hand tools and equipment in Technical Drafting	The learners shall be able to use hand tools and equipment in Technical Drafting	<b>LO 1. Prepare hand tools and equipment in technical drafting</b> <ol style="list-style-type: none"> <li>1.1 List hand tools and equipment based on job requirement</li> <li>1.2 Identify appropriate hand tools and equipment</li> <li><b>1.3</b> Classify hand tools and equipment according to function and task requirement</li> </ol>	<b>TLE_ICTTD7/8UT-0a-1</b>	CBLM I Technical Drawing. Module I. 2008. pp. 20-36.

**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b>	<b>PERFORMANCE STANDARD</b>	<b>LEARNING COMPETENCIES</b>	<b>CODE</b>	<b>LEARNING MATERIALS</b>
<b>LESSON 4: MAINTAIN HAND TOOLS, DRAWING INSTRUMENTS, EQUIPMENT AND PARAPHERNALIA (MT)</b>					
1. Safety procedures in maintaining hand tools, drawing instruments, equipment, and paraphernalia 2. Proper storage of tools 3. Procedures in cleaning, tightening and simple repair of hand tools, drawing instruments, equipment, and paraphernalia 4. Common malfunction when using hand tools, drawing instruments, equipment, and paraphernalia	The learners demonstrate an understanding of concepts and principles in maintaining hand tools, drawing instruments, equipment, and paraphernalia	The learners shall be able to maintain tools, drawing instruments, equipment, and paraphernalia	<b>LO 1. Maintain hand tools, drawing instruments, equipment, and paraphernalia</b> 1.1 Perform safety procedures in maintaining hand tools, drawing instruments, equipment, and paraphernalia 1.2 Follow procedures in cleaning, tightening and simple repair of hand tools, drawing instruments, equipment, and paraphernalia 1.3 Identify common malfunction (unplanned or unusual events) when using tools, drawing instruments, equipment, and paraphernalia	<b>TLE_ICTTD7/8MT-0b-1</b>	CBLM I Technical Drawing. Module II 2008. pp. 3-4.
5. Procedures in accomplishing forms: 5.1 Job order slips 5.2 Requisition slips 5.3 Borrower’s slip 6. Requisition procedures for hand tools, drawing			<b>LO 2. Inspect hand tools, drawing instruments, equipment, and paraphernalia received in technical drafting</b>	<b>TLE_ICTTD7/8MT-0c-d-2</b>	

**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE	LEARNING MATERIALS
instruments, equipment and paraphernalia 7. Inspection procedures for hand tools, drawing instruments, equipment, and paraphernalia			2.1 Follow the standard procedures in accomplishing forms 2.2 Check the list of hand tools, drawing instruments, equipment, and paraphernalia to be requested per job requirement 2.3 Evaluate the condition of all the requested hand tools, drawing instruments, equipment, and paraphernalia for proper operation and safety		
8. Inspection report on 8.1 Malfunctioning tools 8.2 Repair of tools 8.3 Replacement of tools 8.4 Lost tools			<b>LO 3. Prepare an inspection report of the hand tools, drawing instruments, equipment, and paraphernalia received in technical drafting</b> 3.1 Follow procedures in preparing an inspection report to the property custodian	<b>TLE_ICTTD7/8MT-0e-3</b>	
<b>LESSON 5: PERFORM MENSURATION AND CALCULATION (MC)</b>					
1. Different measuring instruments/measuring tools 2. Appropriate measuring	The learners demonstrate an understanding of concepts and principles in performing	The learners shall be able to perform accurate measurements and calculation based on a given task.	<b>LO 1. Select measuring instruments</b> 1.1 Identify measuring tools based on the	<b>TLE_ICTTD7/8MC-0f-1</b>	T.H.E III Industrial Technology. Civil Technology I. Module I. Activity I.



**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b>	<b>PERFORMANCE STANDARD</b>	<b>LEARNING COMPETENCIES</b>	<b>CODE</b>	<b>LEARNING MATERIALS</b>
instruments for a particular job requirements 3. Measuring different objects or components 3.1 Geometric shapes 4. Alternative measuring tools	measurements and calculation		object to be measured or job requirements 1.2 Select appropriate measuring instruments according to job requirements 1.3 Interpret an object or component to be measured according to the appropriate regular geometric shapes 1.4 Use alternative measuring tools without sacrificing cost and quality of work		1992. pp. 5-6
5. Trade Mathematics/ Mensuration 6. Four fundamental operations 6.1 Kinds of measurement 6.2 Dimensions 6.3 Ratio and proportion 6.4 Trigonometric functions 6.5 Algebraic equations 6.6 Fractions, percentages, and decimals 6.7 English to Metric Conversion (and vice versa)			<b>LO 2. Carry out mensuration and calculation</b> 2.1 Perform calculation needed to complete task by applying trade mathematics/mensuration 2.2 Employ different techniques in checking for accuracy of the computation	<b>TLE_ICTTD7/8MC-0g-2</b>	

**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b>	<b>PERFORMANCE STANDARD</b>	<b>LEARNING COMPETENCIES</b>	<b>CODE</b>	<b>LEARNING MATERIALS</b>
<b>LESSON 6: PREPARE AND INTERPRET TECHNICAL DRAWING (TD)</b>					
1. Signs and symbols used in technical drawing 2. Technical drawing data 2.1 Elevation 2.2 Scale measurement 2.3 Dimension 2.4 Depth 2.5 Schedule of windows and doors	The learners demonstrate an understanding of concepts and principles in interpreting technical drawings and work plans	The learners shall be able to read and interpret technical drawings and work plans accurately	<b>LO 1. Analyze signs, symbols, and data</b> 1.1 Identify signs and symbols used in technical drawing 1.2 Analyze data indicated in the technical drawing	<b>TLE_ICTTD7/8TD-0h-1</b>	
3. Symbols of materials used in technical drawing 4. Components and assemblies used in technical plans and schematic diagram 5. Basic dimensioning and specifications requirements of a plan			<b>LO 2. Interpret technical drawings and plans</b> 2.1 Identify necessary materials according to the technical drawing 2.2 Recognize components, assemblies, or objects based on job requirements 2.3 Identify dimensions and specifications according to job requirements	<b>TLE_ICTTD7/8MC-0i-2</b>	
<b>LESSON 7: PRACTICE OCCUPATIONAL HEALTH AND SAFETY PROCEDURE (OS)</b>					
1. Safety procedures 2. Identification of hazards, risks and control 2.1 for users and technicians	The learners demonstrate an understanding of concepts and underlying principles of Occupational Health	The learners shall be able to consistently observe precautionary measures and respond to risks and hazards in the workplace	<b>LO 1. Identify hazards and risks</b> 1.1 Follow OHS policies and procedures in identifying hazards and risks	<b>TLE_ICTTD7/8OS-0j-1</b>	CBLM II (part 1) Machining. Module I. 2008. pp. 2-12, 25-29.

**K to 12 BASIC EDUCATION CURRICULUM**  
**JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK**  
**INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE	LEARNING MATERIALS
2.2 on damaged equipment 2.3 in the environment 3. Organizational safety and health protocol 4. OHS indicators	and Safety (OHS) in relation to health and risk hazards in the workplace		1.2 Explain hazards and risks in the workplace 1.3 Identify hazards and risks indicators as prescribed by the manufacturer 1.4 Apply contingency measures in accordance with the OHS procedures		
5. Safety regulations in the workplace 6. Methods of controlling hazards and risks 7. Disaster preparedness and management			<b>LO 2. Evaluate and control hazards and risks</b> 2.1 Determine the effects of hazards in the workplace 2.2 Identify the methods in controlling hazards and risks 2.3 Follow OHS procedures for controlling hazards and risks	<b>TLE_ICTTD7/8OS-0j-2</b>	CBLM II (part 1) Machining. Module I. 2008. pp. 13-14.
8. OHS procedure, practices, and regulations 9. Emergency-related drills and training			<b>LO 3. Maintain Occupational Health and Safety</b> 3.1 Observe established procedures in responding to emergency-related drill 3.2 Fill-up OHS personal records in accordance with SOP	<b>TLE_ICTTD7/8OS-0j-3</b>	CBLM II (part 1) Machining. Module I. 2008. pp. 47-54, 90-98.

**K to 12 BASIC EDUCATION CURRICULUM**  
**JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK**  
**INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**  
(160 hours)

**Course Description:**

This is a specialization course that leads to a **Technical Drafting** National Certificate Level II (NC II). It covers five (5) core manual drafting competencies that a high school student ought to possess, namely: 1) architectural layout and details, 2) structural layout and details, 3) electrical and electronic layout and details, 4) sanitary and plumbing layout and details, and 5) mechanical layout and details.

The preliminaries of this specialization course include the following: 1) discussion of 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	LEARNING MATERIALS
<b>Introduction</b> 1. Relevance of the course 2. Core concepts of Technical Drafting 3. Career opportunities	The learners demonstrate an understanding of basic concepts, theories, and core competencies in Technical Drafting	The learners shall be able to create/provide quality and marketable product and/or service in terms of Technical Drafting as prescribed by the TESDA Training Regulation	<i>The learners...</i> 1. Discuss the relevance of the course 2. Explain the core concepts of Technical Drafting 3. Explore job opportunities for a career in Technical Drafting		
<b>LESSON 1: PERSONAL ENTREPRENEURIAL COMPETENCIES (PECS)</b>					
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 one's PECs based on the results	The learners demonstrate an understanding of one's PECs in Technical Drafting	The learners shall be able to recognize his/her PECs and prepare an activity plan that aligns with that of a practitioner/entrepreneur in Technical Drafting	<b>LO 1. Recognize PECs needed in Technical Drafting</b> 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 1.4 Align one's PECs with those of a practitioner/entrepreneur	<b>TLE_PECS9-12-I0-1</b>	T.H.E IV Business Technology. Business Management II. Module I. Lesson I. 1994. pp. 6-7.

**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b>	<b>PERFORMANCE STANDARD</b>	<b>LEARNING COMPETENCIES</b>	<b>CODE</b>	<b>LEARNING MATERIALS</b>
<b>LESSON 2: ENVIRONMENT AND MARKET (EM)</b>					
1. Market (Town) 2. Key concepts of market players in the market (Competitors) 3. Products and services available in the market	The learners demonstrate an understanding of environment and market in Technical Drafting in one's locality/town	The learners shall be able to create a business vicinity map reflective of potential Technical Drafting market in the locality/town	<b>LO 1. Recognize and understand the market in Technical Drafting</b> 1.1 Identify the players/competitors in the town 1.2 Identify the different products/services available in the market	<b>TLE_EM9-12-IO-1</b>	
4. Market (Customer) 5. Key concepts of identifying and understanding the consumer 6. Consumer Analysis through: 7.1 Observation 7.2 Interviews 7.3 FGD 7.4 Survey			<b>LO 2. Recognize the potential customer/market in Technical Drafting</b> 2.1 Identify the profile of potential customers 2.2 Identify the customer's needs and wants through consumer analysis 2.3 Conduct consumer/market analysis	<b>TLE_EM9-12-IO-2</b>	
<b>LESSON 3: DRAFTING ARCHITECTURAL LAYOUT AND DETAILS (AL)</b>					
1. Drafting tools, materials, and equipment 2. Industry Standards and Operating Procedures 3. Architectural 3.1 Job requirements 3.2 Electrical terms and symbols 3.3 Working drawings	The learners demonstrate an understanding of concepts and principles in the preparation of architectural layout and details	The learners shall be able to prepare architectural layout and details based on established industry and/or job requirements	<b>LO 1. Prepare architectural job requirements</b> 1.1 Prepare tools, materials, and equipment in technical drawing 1.2 Select drawing tools, materials, and equipment in accordance with the SOP 1.3 Assess architectural job requirements based on SOP	<b>TLE_ICTTD9-12AL-Ia-1</b>	CBLM I Technical Drawing Module I. 2008. pp. 20-36.

**K to 12 BASIC EDUCATION CURRICULUM**  
**JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK**  
**INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE	LEARNING MATERIALS
			1.4 Interpret blueprint according to architectural layout drawing/job requirements following SOP and work instructions		
4. OHS policies and procedures laws 4.1 Personal safety 4.2 Workplace hazards 4.3 Environment laws 5. Setting up drawing equipment 6. Layouting drawings and details			<b>LO 2. Prepare and set up tools and materials for drawing</b> 2.1 Observe OHS policies and procedures in setting-up tools and materials for drawing 2.2 Prepare drawing tools, materials and equipment based on job requirements 2.3 Set up tools, materials, and equipment based on the job requirements	<b>TLE_ICTTD9-12AL-Ib-2</b>	
7. Theory and concepts of site development plan 7.1 Site Plans 7.2 Azimuth 7.3 Coordinate planes 8. Title block and borders 9. Alphabet of lines 10. Lettering 11. Notes and legends of architectural plans and standards 12. Layouting, dimensioning, and scaling 13. Grading conventions and symbols			<b>LO 3. Draft site development plan</b> 3.1 Draw a technical description of a lot according to the approved lot survey 3.2 Draw a building footprint according to the architectural drafting standards 3.3 Draw a title block according to the architectural drafting standards 3.4 Indicate dimension lines, dimensions, and drawing titles according to architectural drafting standards	<b>TLE_ICTTD9-12AL-Ic-e-3</b>	

**K to 12 BASIC EDUCATION CURRICULUM**  
**JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK**  
**INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE	LEARNING MATERIALS
14. Floor plan features 15. Floor planning scale 16. Schedule of doors and windows 17. Architectural floor symbols			<b>LO 4. Draft floor plans</b> 4.1 Draw walls, windows, doors, fixtures, and fittings according to architectural design standards 4.2 Draw grid and dimension lines according to architectural design standards 4.3 Use metric scale system according to the magnitude of the plan 4.4 Identify sizes of doors, walls, and rooms following the schedule Indicate letterings and labels according to the drafting standards	<b>TLE ICTTD9-12AL-If-j-4</b>	T.H.E IV Industrial Technology. Drafting II. Module II. Lesson III-VIII. 1993. pp. 29-84.
18. Operational definition/terminologies on roof plans 19. Roof parts and members 20. Architectural roof symbols 21. Sheet contents 22. Framing details			<b>LO 5. Draft roof plans</b> 5.1 Indicate the dimensions of the roof plan based on the floor plan 5.2 Draw roof plans according to drafting standards 5.3 Use standard architectural symbols in drafting roof plans 5.4 Layout drawings according to sheet contents 5.5 Draw framing details of roof plan according to architectural drafting standards	<b>TLE ICTTD9-12AL-IIa-c-5</b>	T.H.E IV Industrial Technology. Drafting II. Module II. Lesson IV. 1993. pp. 59-60.

**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b>	<b>PERFORMANCE STANDARD</b>	<b>LEARNING COMPETENCIES</b>	<b>CODE</b>	<b>LEARNING MATERIALS</b>
23. Operational definition/terminology on ceiling plans 24. Ceiling parts and members 25. Procedures in drafting ceiling plans			<b>LO 6. Draft ceiling plans</b> 6.1 Draw vertical heights from finish floor line to ceiling line according to architectural drafting standards 6.2 Indicate lighting fixtures and fire protection devices on the ceiling plan based on architectural drafting standards	<b>TLE_ICTTD9-12AL-II-d-f-6</b>	
26. Operational definition/terminology of elevations and sections 27. Architectural detailing and sectioning 28. Different house views and elevations 29. Detailing techniques			<b>LO 7. Draft elevations and sections</b> 6.1 Draw vertical heights from grade line according to architectural drafting standards 6.2 Project offsets from right, left, and rear sides of floor plan according to architectural drafting standards 6.3 Draw roof eaves and pitch on all elevations and sections according to architectural drafting standards 6.4 Project doors and windows in all elevations and sections 6.5 Project cross and longitudinal section views from the floor plans and elevations 6.6 Indicate various material symbols and specifications in all elevations and sections	<b>TLE_ICTTD9-12AL-II-g-i-7</b>	T.H.E IV Industrial Technology. Drafting II. Module II. Lesson IV. 1993. pp. 47-64.



**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b>	<b>PERFORMANCE STANDARD</b>	<b>LEARNING COMPETENCIES</b>	<b>CODE</b>	<b>LEARNING MATERIALS</b>
26. Dimensions and markings 27. Company rules and regulations 28. Re-work procedures 29. Clean-up activities 30. Housekeeping			<b>LO 8. Submit complete drawings</b> 8.1 Follow the SOP when submitting the completed drawing to appropriate personnel (e.g., Engineer, Architect) 8.2 Note comments and corrections for final drawings following the SOP 8.3 Integrate comments and corrections into the final drawing based on job requirements 8.4 Perform housekeeping procedures following the SOP	<b>TLE ICTTD9-12AL-IIj-8</b>	
<b>LESSON 4: DRAFTING STRUCTURAL LAYOUT AND DETAILS (SL)</b>					
1. Definition of structural terms 2. Different structures and details 3. Structural drawing standards	The learners demonstrate an understanding of concepts and principles in drafting structural layout and details	The learners shall be able to draft structural layout and details following the job requirements	<b>LO 1. Draft foundation plans</b> 1.1 Indicate the locations of wall footings, footings, and columns in drafting the floor plan 1.2 Draw in a larger scale details of wall footings, footings, and columns	<b>TLE ICTTD9-12SL-IIIa-b-1</b>	
4. Operational definition/terminology of floors and roof framing plans 5. Structural drawing standards 5.1 timber 5.2 concrete 5.3 steel			<b>LO 2. Draft structural floors and roof framing plans</b> 2.1 Draft structural floor and roof framing plans based on floor and foundation plans using timber, concrete, or steel construction	<b>TLE ICTTD9-12SL-IIIc-e-2</b>	T. H.E IV Industrial Technology. Drafting II. 1993. pp. 47-53.

**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b>	<b>PERFORMANCE STANDARD</b>	<b>LEARNING COMPETENCIES</b>	<b>CODE</b>	<b>LEARNING MATERIALS</b>
6. Structural floor plans and standards 7. Roof-framing plan standards			2.2 Draft structural floor and roof beams showing sizes, shapes, and detailed connections		
<b>LESSON 5: DRAFTING ELECTRICAL AND ELECTRONIC LAYOUT AND DETAILS (EL)</b>					
1. Operational definition/terminology of electrical and electronic layout and details 2. Electrical drawing standards 3. Philippine Electrical Code 4. National Building Code 5. Fire Code	The learners demonstrate an understanding of concepts and principles in drafting electrical and electronic layout and details	The learners shall be able to draft electrical and electronic layout and details following the job requirements	<b>LO 1. Draft electrical plans and layouts</b> 1.1 Draft lighting and power layouts according to electrical drafting standards 1.2 Place riser diagram and circuiting symbols in electrical plans and layouts according to Electrical Code 1.3 Indicate legend and general notes according to local power service provider	<b>TLE_ICTTD9-12EL-III-f-g-1</b>	1. T.H.E III Industrial Technology Electricity I. Module II Activity VIII. pp. 88-103.  2. T.H.E III Industrial Technology. Electricity I. Module IV. Activity II. pp. 131-148.
6. Auxiliary systems equipment 7. Philippine Electrical Code 8. National Building Code 9. Fire Code			<b>LO 2. Draft auxiliary system and layout</b> 2.1 Layout fire alarm and protection system symbols in the auxiliary system and layout plan according to Fire Code 2.2 Layout electronic and communication devices according to electrical drafting requirements	<b>TLE_ICTTD9-12EL-III-h-j-2</b>	

**K to 12 BASIC EDUCATION CURRICULUM**  
**JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK**  
**INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE	LEARNING MATERIALS
<b>LESSON 6: DRAFTING SANITARY AND PLUMBING LAYOUT AND DETAILS (SP)</b>					
<ol style="list-style-type: none"> <li>1. Plumbing Code</li> <li>2. Plumbing fixtures and fittings</li> <li>3. Plumbing symbols</li> <li>4. National Building Code</li> <li>5. Clean Water Act</li> </ol>	<p>The learners demonstrate an understanding of concepts and principles in drafting sanitary and plumbing layout and details</p>	<p>The learners shall be able to draft sanitary and plumbing layout and details following job requirements</p>	<p><b>LO 1. Draft water distribution system</b></p> <ol style="list-style-type: none"> <li>1.1 Draft hot and cold water distribution systems according to Plumbing and Water Codes</li> <li>1.2 Indicate signs and symbols according to sanitary and plumbing requirements</li> </ol>	<p><b>TLE_ICTTD9-12SP-IVa-b-1</b></p>	
			<p><b>LO 2. Draft sanitary and storm drainage</b></p> <ol style="list-style-type: none"> <li>2.1 Draw sewerage plan layout according to Plumbing Code</li> <li>2.2 Draft storm drainage plan according to Plumbing Code</li> <li>2.3 Draw details and symbols according to sanitary and plumbing requirements</li> </ol>		
<b>LESSON 7: DRAFTING MECHANICAL LAYOUT AND DETAILS (ML)</b>					
<ol style="list-style-type: none"> <li>1. Mechanical Code</li> <li>2. National Building Code</li> <li>3. Heating, ventilating, and air-conditioning (HVAC) layout standards</li> <li>4. Conveyor system standards</li> </ol>	<p>The learners demonstrate an understanding of concepts and principles in drafting mechanical layout and details</p>	<p>The learners shall be able to draft mechanical layout and details following job requirements</p>	<p><b>LO 1. Draft heating, ventilating, and air-conditioning systems layout</b></p> <ol style="list-style-type: none"> <li>1.1 Draft HVAC systems according to Mechanical Code</li> <li>1.2 Indicate signs and symbols according to mechanical layout and detail requirements</li> </ol>	<p><b>TLE_ICTTD9-12ML-IVe-f-1</b></p>	

**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b>	<b>PERFORMANCE STANDARD</b>	<b>LEARNING COMPETENCIES</b>	<b>CODE</b>	<b>LEARNING MATERIALS</b>
			<b>LO 2. Draft mechanical details of conveyor system</b> 2.1 Draw elevator, escalators, dumbwaiter, and moving ramp systems according to Mechanical Code 2.2 Draw details of mechanical conveyor system according to mechanical layout and detail requirements	<b>TLE_ICTTD9-12ML-IVg-h-2</b>	
5. Fire Code 6. National Building Code 7. Fire protection equipment and installations			<b>LO 3. Draft fire protection systems</b> 3.1 Draw fire sprinkler system according to Fire Code 3.2 Draw signs and symbols of fire protection systems according to fire protection requirements	<b>TLE_ICTTD9-12ML-IVi-j-3</b>	

**K to 12 BASIC EDUCATION CURRICULUM**  
**JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK**  
**INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**  
(160 hours)

**Course Description:**

This is a specialization course that leads to a **Technical Drafting** National Certificate Level II (NC II). It covers five (5) core Computer-Aided Drawing (CAD) competencies that a high school student ought to possess, namely: 1) preparing CAD, 2) laying out structural details, 3) laying out electrical and electronic details, 4) laying out sanitary and plumbing details, and 5) laying out mechanical details.

The preliminaries of this specialization course include the following: 1) discussion of 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	LEARNING MATERIALS
<b>Introduction</b> 1. Relevance of the course 2. Core concepts of Computer-Aided Drawing (CAD) in Technical Drafting 3. Career opportunities	The learners demonstrate an understanding of basic concepts, theories, and core CAD competencies in Technical Drafting	The learners shall be able to create/provide quality and marketable product and/or service using CAD in Technical Drafting as prescribed by the TESDA Training Regulations	<i>The learners...</i> 1. Discuss the relevance of the course 2. Explain the core concepts CAD in Technical Drafting 3. Explore job opportunities for a career in Technical Drafting		
<b>LESSON 1: PERSONAL ENTREPRENEURIAL COMPETENCIES (PECS)</b>					
1. Assessment of Personal Competencies and Skills (PECs) vis-à-vis 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. Application of PECs to the chosen business/career	The learners demonstrate an understanding of one's PECs in Technical Drafting	The learners shall be able to create a plan of action that strengthens/ further develops one's PECs in Technical Drafting	<b>LO 1. Develop and strengthen PECs needed in Technical Drafting</b> 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	<b>TLE_PECS9-12-I0-1</b>	
<b>LESSON 2: ENVIRONMENT AND MARKET (EM)</b>					

**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b>	<b>PERFORMANCE STANDARD</b>	<b>LEARNING COMPETENCIES</b>	<b>CODE</b>	<b>LEARNING MATERIALS</b>
1. Product development 2. Key concepts in developing a product 3. Finding value 4. Innovation 4.1 Unique Selling Proposition (USP)	The learners demonstrate an understanding of environment and market in Technical Drafting in one’s province	The learners shall be able to create a business vicinity map reflective of potential Technical Drafting market in one’s province	<b>LO 1. Develop a product/ service in Technical Drafting</b> 1.1 Identify what is of “Value” to the customer 1.2 Identify the customer to sell to 1.3 Explain what makes a product unique and competitive 1.4 Apply creativity and Innovative techniques to develop marketable product 1.5 Employ a Unique Selling Proposition (USP) to the product/service	<b>TLE_EM9-12-I0-1</b>	
5. Selecting a business idea 6. Key concepts in Selecting a business idea 6.1 Criteria 6.2 Techniques			<b>LO 2. Select a business idea based on the criteria and techniques set</b> 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	<b>TLE_EM9-12-I0-2</b>	

**K to 12 BASIC EDUCATION CURRICULUM**  
**JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK**  
**INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE	LEARNING MATERIALS
7. Branding			<b>LO 3. Develop a brand for the product</b> 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 and appealing product brand	<b>TLE_EM9-12-I0-3</b>	
<b>LESSON 3: PREPARING COMPUTER-AIDED DRAWING (CA)</b>					
1. Basic CAD concepts 2. Operational definition/terminologies on floors and roof framing plans 3. CAD working environment 4. CAD Features 4.1 Commands 4.2 Tools 4.3 Dimensions 4.4 Hardware 4.5 Manipulations 4.6 Plotting 4.7 Editing 4.8 Attributes 4.9 Object linking and embedding 4.10 Modifications	The learners demonstrate an understanding of concepts and underlying principles in the preparation of CAD.	The learners shall be able to prepare CAD based on established industry and/or job requirements	<b>LO 1. Operate CAD software and computer hardware</b> 1.1 Identify CAD software features according to the software provider 1.2 Explore CAD working environment 1.3 Manipulate CAD features as per job requirement	<b>TLE_ICTTD9-12CA-Ia-b-1</b>  <b>TLE_ICTTD9-12CA-Ic-j-2</b>	

**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b>	<b>PERFORMANCE STANDARD</b>	<b>LEARNING COMPETENCIES</b>	<b>CODE</b>	<b>LEARNING MATERIALS</b>
5. Occupational Health and Safety (OHS) policies and procedures OHS laws 5.1 Personal safety 5.2 Workplace hazards 5.3 Environment laws 6. Title block 7. Plates 8. Scale 9. Building standards			<b>LO 2. Prepare plan using CAD</b> 2.1 Observe OHS policies and procedures in when preparing plan using CAD 2.2 Set up drawings according to standard drawing scale and paper size 2.3 Prepare working drawings using CAD software as per building standards	<b>TLE_ICTTD9-12CA-IIa-j-2</b>	
<b>LESSON 4: DRAFTING STRUCTURAL LAYOUT AND DETAILS USING CAD (LC)</b>					
1. Definition of structural terms 2. Different structures and details 3. Structural drawing standards	The learners demonstrate an understanding of concepts and principles in drafting structural layout and details	The learners shall be able to draft structural layout and details following the job requirements	<b>LO 1. Draft foundation plans</b> 1.1 Indicate the locations of wall footings, footings, and columns in drafting the floor plan 1.2 Draw on a larger scale details of wall footings, footings, and columns	<b>TLE_ICTTD9-12LC-IIIa-b-1</b>	
4. Operational definition/terminology of floors and roof framing plans 5. Structural drawing standards 5.1 timber 5.2 concrete 5.3 steel			<b>LO 2. Draft structural floors and roof framing plans</b> 2.1 Draft structural floor and roof framing plans based on floor and foundation plans using timber, concrete, or steel construction	<b>TLE_ICTTD9-12LC-IIIc-e-2</b>	



**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b>	<b>PERFORMANCE STANDARD</b>	<b>LEARNING COMPETENCIES</b>	<b>CODE</b>	<b>LEARNING MATERIALS</b>
6. Structural floor plans and standards 7. Roof-framing plan standards			2.2 Draft structural floor and roof beams showing sizes, shapes, and detailed connections		
<b>LESSON 5: DRAFTING ELECTRICAL AND ELECTRONIC LAYOUT AND DETAILS USING CAD (EC)</b>					
1. Operational definition/terminology of electrical and electronic layout and details 2. Electrical drawing standards 3. Philippine Electrical Code 4. National Building Code 5. Fire Code	The learners demonstrate an understanding of concepts and principles in drafting electrical and electronic layout and details	The learners shall be able to draft electrical and electronic layout and details following the job requirements	<b>LO 1. Draft electrical plans and layouts</b> 1.1 Draft lighting and power layouts according to electrical drafting standards 1.2 Place riser diagram and circuiting symbols in electrical plans and layouts according to Electrical Code 1.3 Indicate legend and general notes according to local power service provider	<b>TLE_ICTTD9-12EC-IIIif-g-1</b>	
6. Auxiliary systems equipment 7. Philippine Electrical Code 8. National Building Code 9. Fire Code			<b>LO 2. Draft auxiliary system and layout</b> 2.1 Layout fire alarm and protection system symbols in the auxiliary system and layout plan according to Fire Code 2.2 Layout electronic and communication devices according to electrical drafting requirements	<b>TLE_ICTTD9-12EC-IIIh-j-2</b>	

**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b>	<b>PERFORMANCE STANDARD</b>	<b>LEARNING COMPETENCIES</b>	<b>CODE</b>	<b>LEARNING MATERIALS</b>
<b>LESSON 6: DRAFTING SANITARY AND PLUMBING LAYOUT AND DETAILS USING CAD (SC)</b>					
1. Plumbing Code 2. Plumbing fixtures and fittings 3. Plumbing symbols 4. National Building Code 5. Clean Water Act	The learners demonstrate an understanding of concepts and principles in drafting sanitary and plumbing layout and details	The learners shall be able to draft sanitary and plumbing layout and details following the job requirements	<b>LO 1. Draft water distribution system</b> 1.1 Draft hot and cold water distribution systems according to Plumbing and Water Codes 1.2 Indicate signs and symbols according to sanitary and plumbing requirements	<b>TLE_ICTTD9-12SC-IVa-1</b>	
			<b>LO 2. Draft sanitary and storm drainage</b> 2.1 Draw sewerage plan layout according to Plumbing Code 2.2 Draft storm drainage plan according to Plumbing Code 2.3 Draw details and symbols according to sanitary and plumbing requirements	<b>TLE_ICTTD9-12SC-IVb-c-2</b>	
<b>LESSON 7: DRAFTING MECHANICAL LAYOUT AND DETAILS USING CAD (DC)</b>					
1. Mechanical Code 2. National Building Code 3. HVAC layout standards 4. Conveyor system standards	The learners demonstrate an understanding of concepts and principles in drafting mechanical layout and details	The learners shall be able to draft mechanical layout and details following job requirements	<b>LO 1. Draft HVAC systems layout</b> 1.1 Draft HVAC systems according to Mechanical Code 1.2 Indicate signs and symbols according to mechanical layout and detail requirements	<b>TLE_ICTTD9-12DC-IVd-e-1</b>	

**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE	LEARNING MATERIALS
			<b>LO 2. Draft mechanical details of conveyor system</b> 2.1 Draw elevator, escalators, dumbwaiter, and moving ramp systems according to Mechanical Code 2.2 Draw details of mechanical conveyor system according to mechanical layout and detail requirements	TLE_ICTTD9-12DC-IVf-g-2	
5. Fire Code 6. National Building Code 7. Fire protection equipment and installations			<b>LO 3. Draft fire protection systems</b> 3.1 Draw fire sprinkler system according to Fire Code 3.2 Draw signs and symbols of fire protection systems according to fire protection requirements	TLE_ICTTD9-12DC-IVh-i-3	
8. Gas piping fittings and joints			<b>LO 4. Draft gas piping system</b> 4.1 Draft gas piping layout according to Mechanical Code 4.2 Draw signs and symbols according to mechanical layout and detail requirements	TLE_ICTTD9-12DC-IVj-4	

**K to 12 BASIC EDUCATION CURRICULUM**  
**JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK**  
**INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**  
**Code Book Legend**

Sample: TLE ICTTD9-12DC-IVj-4

LEGEND		SAMPLE		DOMAIN/ COMPONENT	CODE	
<b>First Entry</b>	Learning Area and Strand/ Subject or Specialization	Technology and Livelihood Education_Home Economics Tailoring	<b>TLE ICT TD 9-12</b>	Personal Entrepreneurial Competencies	PECS	
				Environment and Market	EM	
				Use of Hand Tools and Equipment	UT	
	Grade Level			Grade 9/10/11/12	Maintain Computer Equipment and Systems	MT
					Perform Mensuration and Calculation	MC
					Prepare and Interpret Technical Drawing	TD
<b>Uppercase Letter/s</b>	Domain/Content/ Component/ Topic	Drafting Mechanical Layout and Details Using CAD	<b>DC</b>	Practice Occupational Health and Safety Procedures	OS	
				Drafting Architectural Layout and Details	AL	
			-	Drafting Structural Layout and Details	SL	
<b>Roman Numeral</b> <i>*Zero if no specific quarter</i>	Quarter	Fourth Quarter	<b>IV</b>	Drafting Electrical and Electronic Layout and Details	EL	
				Drafting Sanitary and Plumbing Layout and Details	SP	
<b>Lowercase Letter/s</b> <i>*Put a hyphen (-) in between letters to indicate more than a specific week</i>	Week	Week Ten	<b>j</b>	Drafting Mechanical Layout and Details	ML	
				Preparing Computer-Aided Drawing	CA	
				Drafting Structural Layout and Details Using CAD	LC	
<b>Arabic Number</b>	Competency	Draft gas piping system	<b>4</b>	Drafting Sanitary and Plumbing Layout and Details Using CAD	SC	
				Drafting Mechanical Layout and Details Using CAD	DC	

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 ICT specialization and those that have pre-requisites. Curriculum Maps may be modified according to specializations offered by a school.

**K to 12 BASIC EDUCATION CURRICULUM  
 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK  
 INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)  
 SAMPLE ICT CURRICULUM MAP\*\* (as of May 2016)**

Grade 7/8 (EXPLORATORY)	GRADES 9-12			
<b>EXPLORATORY</b>	<b>Computer Systems Servicing (NC II)<sup>+</sup></b> updated based on TESDA Training Regulations released December 28, 2007			<b>8 sems</b>
			<b>*Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) (NC II)</b>	<b>4 sems</b>
			<b>*Telecom OSP Installation (Fiber Optic Cable) (NC II)</b>	<b>*Broadband Installation (Fixed Wireless Systems) (NC II)</b>
	<b>Illustration (NC II)</b>	<b>Technical Drafting (NC II)</b>		
	<b>Computer Programming (.Net Technology) (NC III)<sup>+</sup></b> updated based on TESDA Training Regulations released December 28, 2013	<b>Contact Center Services (NC II)</b>		
	<b>Computer Programming (Java) (NC III)<sup>+</sup></b> updated based on TESDA Training Regulations released December 28, 2013	<b>Animation (NC II)</b>		
	<b>Computer Programming (Oracle Database) (NC III)<sup>+</sup></b> updated based on TESDA Training Regulations released December 28, 2013	<b>Medical Transcription (NC II)</b>		

\* Please note that these subjects have pre-requisites mentioned in the CG.  
 + CG updated based on new Training Regulations of TESDA.  
█ 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.**

**K to 12 BASIC EDUCATION CURRICULUM**  
**JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK**  
**INFORMATION AND COMMUNICATIONS TECHNOLOGY – TECHNICAL DRAFTING (NC II)**

**Reference:**

Technical Education and Skills Development Authority-Qualification Standards Office. *Training Regulations for Technical Drafting NC II*. Taguig City, Philippines: TESDA, 2013.