**APPRENTICESHIP CURRICULUM (OPTIONAL TRADE)**

**Gem & Jewellery**

**Filer and Assembler\_Version 3.0**

**Course Code: CO112200027**

**NAPS Non-NAPS**

**NSQF Level: 3**

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# Course Details

|  |  |  |
| --- | --- | --- |
|  | **Course Name** | **Filer and Assembler\_Version 2.0** |
|  | **Course Code** | CO022019000023 |
|  | **Apprenticeship Training Duration:**   1. *(2 to 4 weeks of BT is embedded in this duration as per the requirement of the establishment)* | **Months: 12 months (2160 Hours)** |
| 1. **Remarks** |  |
|  | **Credit** | **TBD** |
|  | **NSQF Level** (*Mandatory for NAPS*) | 3 **NSQC Approval Date:** 17/11/2022 |
|  | **Related NSQF aligned qualification details** | |  |  |  |  | | --- | --- | --- | --- | | **S. No.** | **QP/ Qualification/ NOS Name** | **QP/ NOS Code & Version** | **NQR Code** | | 1 | Filer and Assembler | G&J/Q2901, Version 2.0 | 2022/GJ/GJSCI/05421 | |
|  | **Brief Job Role Description** | The individual works with numerous hand and machine tools to remove sprues from the cast jewellery piece; rectify casting defects such as porosity, blisters, bubbles, and cracks; and assemble the final jewellery components meant for linking. |
|  | **NCO-2015 Code & Occupation** (*Access the NCO 2015 volumes from:* [*https://labour.gov.in/organizationsofmole/directorate-general-employment-training-dget*](https://labour.gov.in/organizationsofmole/directorate-general-employment-training-dget) ) | NCO - 2015/7313.0703  Filing and Assembling, Component Making/Filling/Assembling |
|  | **Minimum Eligibility Criteria**  *(Educational and/ or Technical Qualification)* | 9th Class |
|  | **Entry Age of Apprenticeship** | 18 years |
|  | **Any Licensing Requirements** (*wherever applicable*) | NA |
|  | **Is the Job Role amenable to Persons with Disability** | **Yes  No**  **If yes, check the applicable type of Disability**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Locomotor Disability** | **Leprosy Cured Person** | **Cerebral Palsy** | **Dwarfism** | **Muscular Dystrophy** | | **Acid Attack Victims** | **Blindness** | **Low Vision** | **Deaf** | **Hard of Hearing** | | **Speech and Language Disability** | **Intellectual Disability** | **Specific Learning Disabilities** | **Autism Spectrum Disorder** | **Mental Illness** | | **Multiple Sclerosis** | **Parkinson's Disease** | **Haemophilia** | **Thalassemia** | **Sickle Cell Disease** | | **Multiple Disabilities** |  |  |  |  | |  | |
| **Remarks:** |
|  | **Submitting Body Details** | **Name:** Gems & Jewellery Skill Council of India  **E-mail ID:** ceo@gjsci.org  **Contact Number:** +91 22 28293940 |
|  | **Certifying Body** | Gems & Jewellery Skill Council of India  And  Industry partners of Gems & Jewellery Skill Council of India |
|  | **Employment Avenues/Opportunities** | **1) Jewellery Filing and Assembling units in India:** The apprentice may be employed with the Jewellery Filing and Assembling units or casted or handmade Jewellery manufacturing units in India.  **2) Jewellery Filing and Assembling set up:** The apprentice may be encouraged to set up their own Jewellery Filing and Assembling unit.  **3) Education and Training:** They may also take up the role of the instructor in this field where they can impart their manufacturing knowledge to the aspiring students. |
|  | **Career Progression** | **Vertical progression**   1. Jewellery Filer and Assembler Quality checker |
|  | **Trainer’s Qualification & Experience:** | 12th Pass and 5 years of Relevant Industry Experience and 2-3 years of Training Experience |
|  | **Curriculum Creation Date** | 23/02/2023 |
|  | **Curriculum Valid up to Date** | 02/24/2025 |
|  | **List of Other Supporting Documents** (*wherever applicable*) | NA |

# Module Details

| **S. No** | **Module/NOS Name, Code, Version** | **Outcomes** | **Assessment Marks** | | **Passing Percentage** | |
| --- | --- | --- | --- | --- | --- | --- |
| **Th.** | **Pr.** | **Th.** | **Pr.** |
|  | **Introduction and orientation** | * Identify basic process of jewellery manufacturing. * Interact with different departments and key personnel of departments in the organization. * Identify HR policies, timings to be followed in the organisation, leaves, holidays, disciplinary policies etc. * List the responsibilities of a Filer and Assembler. |  |  |  |  |
|  | **Maintain occupational health and safety**  **G&J/N9905**  **Version: 1.0** | * Record and report potential safety issues while working at workplace. * Practice safety procedures at workplace. * Carryout work as per laid down instructions and guidelines for preventing danger or damage of the machines and report any abnormal observation. * Sanitize and disinfect the one's work area regularly. * Maintain cleanliness and hygiene of workplace. * Escalate issues related to cleanliness, hygiene and hazardous material to concerned department. * Deal with emergencies and accidents such as fires and natural calamities at the workplace. * Practice use of fire-fighting equipment available at the workplace. * Practice safe material handling practices for lifting the heavy load. * Practice first-aid practices. * Inspect the work area, tools, equipment and materials for their cleanliness. * Store the material and equipment in the correct location and in good condition. | 3.0 | 5.0 | 50% | 50% |
|  | **File and assemble the cast jewellery piece**  **G&J/N2901**  **Version: 1.0** | * Read & interpret the job Sheet /card in terms of filing and assembling requirement * Identify different types of filing and assembling methods like to the casted components or mass finished pieces. * Arrange different types of findings or components used in assembly or linking like clasps, beads, earring backs, charms etc., * List different types of machine /tools, chemicals, consumables used during grinding, filing, soldering or linking of jewellery components. * Carry out basic calculation on weight tolerance / length / ring or bangle size / diameter * Carry out loading and dismantling of different attachments / wheels on grinding or filing bench. * Use different types of chemicals / medias used during filing and assembling processes. * Carry out positioning of job in terms of area in contact & pressure applied for subsequent cutting / filing action * Carry out basic steps followed during grinding, filing process. * Carry out filing and assembling of plain jewellery articles like ring, pendent, ear studs under the guidance of process expert / supervisor * Identify basic casting defects like porosity, surface roughness, hair line crack, hard spots / mounds, bubbles etc., * Carry out basic steps followed during wet or dry grinding, filing and assembling process * Carry out filing and assembling of standard studded jewellery product including bracelets, metal set & handmade jewellery articles with little guidance from process expert / supervisor * Carry out repairing of basic casting defects like porosity, surface roughness, hair line crack, hard spots / mounds. * Carry out grinding, filing and assembling of all type of jewellery products including high end studded jewellery products like bracelets, bangles, necklaces, bridal jewellery, filigree jewellery * Carry out surface texturing on different types of jewellery product * Check or measure and rectify or size the dimensions of the Jewellery like ring, bangle, bracelet using ring stick and bangle using various tools or gauges. * Repair different types and complexities of casting, sizing defects like porosity, surface roughness, hair line crack, hard spots / mounds, incorrect bracelet length, inner ring or bangle diameter etc., * Maintain finished weight of product after anticipating process loss * Achieve predefined process loss, subsequent recovery of precious metal (Dust form) * Follow organisational specified product/process quality acceptance standard. * Follow standard guideline & make an attempt to adhere to specified process loss. * Carry out quality checks of various category of stone set jewellery product * Achieve targets on predefined productivity & Product Quality norms. * Comply process improvement project / basic training activities of fresh candidates by organisation | 10.0 | 65.0 | 50% | 50% |
|  | **Respect and maintain IPR**  **G&J/N9901**  **Version: 4.0** | * Protect company's Intellectual Property Rights (IPR) * Apply appropriate ways to prevent leak of new orders to competitors by reporting on time * Apply appropriate ways to prevent leak of the manufacturing processes or the policies followed by the company * Report IPR violations observed in the market, to supervisor or company heads | 6.0 | 6.0 | 50% | 50% |
| 5. | **Employability**  **Skills (30 Hours)**  **DGT/VSQ/N0101**  **Version 1.0** | * Discuss own strengths and weaknesses and analyse the gaps to ensure continuous improvement. * Discuss the measures to be undertaken to utilise time effectively thereby achieving maximum productivity. * List the characteristics of innovative individuals * List the levels of Maslow Hierarchy of needs * List the traits of effective team * Discuss tips for stress management * Discuss the importance of good work ethics * Discuss how to manage an enterprise * Describe how to plan effective strategies for solving problems and improving work culture within the team. * List the various types of digital marketing techniques. * Discuss the types and importance of e-commerce in promoting businesses. * List the various types of online banking services being used widely. * Discuss the procedure to apply for bank finances * List the elements of a proposal to attract future business opportunities and prospective clients. * Explain how to conduct entrepreneurial programs to identify business opportunities, generate employment and increase clientele. * Understand the make in India campaign * Discuss the importance of Swachh Bharat Abhiyan * Understand the importance of entrepreneurship * Describe the traits of successful entrepreneur * List the types of enterprises * Understand the importance of effective speaking and listening * Discuss the importance of problem solving * Discuss how to deal with failures * Describe the core keys of marketing * Discuss ways to manage risks at workplace * Show how to analyse a situation to identify gaps for improving the work process. * Demonstrate the procedure to plan the time taken to perform various tasks effectively. * Describe how market research is carried out * Role play the characteristics of an effective entrepreneur and leader * Demonstrate on how to identify new business opportunities * Prepare a sample plan to solve problems and improve productivity at the workplace. * Demonstrate the procedure to operate a computer for digital marketing, e-commerce, branding, etc. * Show how to use services such as NEFT, IMPS, UPI, RTGS for online banking. | 20.0 | 30.0 | 70% | 70% |
| **Total Marks** | | | **39** | **106** |  |  |

# Glossary

|  |  |
| --- | --- |
| **Term** | **Description** |
| **Sector** | Sector is a conglomeration of diﬀerent business operations having similar business and interests. It may also be deﬁned as a distinct subset of the economy whose components share similar characteristics and interests. |
| **Occupation** | Occupation is a set of job roles, which perform similar/ related set of functions in an industry. |
| **Job role** | Job role deﬁnes a unique set of functions that together form a unique employment opportunity in an organisation. |
| **Occupational Standards (OS)** | OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts. |
| **National Occupational Standards (NOS)** | NOS are occupational standards which apply uniquely in the Indian context. |

# Acronyms

|  |  |
| --- | --- |
| **Acronym** | **Description** |
| **NOS** | National Occupational Standard(s) |
| **NSQF** | National Skills Qualiﬁcations Framework |
| **QP** | Qualiﬁcations Pack |
| **PwD** | Persons with Disability |
| **OEM** | Original Equipment Manufacturer |

# Annexure 1: Tools and Equipment

## List of Tools and Equipment

The tools and equipment required are:

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No.** | **Tool / Equipment Name** | **Specification** | **Quantity for specified Batch size** |
| 1 | Double Side File | Big size | 30 |
| 2 | Work Bench |  | 30 |
| 3 | Tweezers |  | 30 |
| 4 | Micro Motor |  | 15 |
| 5 | Gas or flame Torch |  | 5 |
| 6 | Steel Scale |  | 30 |
| 7 | Copper Wire |  | Consumable |
| 8 | Sulphuric Acid | As required | Consumable |
| 9 | Round File |  | 30 |
| 10 | Flat File |  | 30 |
| 11 | Double Half File |  | 30 |
| 12 | Saw Frame |  | 30 |
| 13 | Measuring Gauge |  | Consumable |
| 14 | Ring Rod |  | 15 |
| 15 | Hammer |  | 5 |
| 16 | Ring Sizer |  | 5 |
| 17 | Bangle Sizer |  | 5 |
| 18 | Full File Set |  | 5 |
| 19 | Cutter |  | 15 |
| 20 | Plier |  | 15 |
| 21 | Table Brush |  | 30 |
| 22 | Triangular File |  | 30 |
| 23 | Metal Scissor |  | 15 |
| 24 | Plier with Rubber Handle | 3 types | 15 |
| 25 | Metal (Copper and Brass) | Min Per person 4 x 4 inches | Consumable |
| 26 | Saw Blades | As required | Consumable |
| 27 | Emery Paper | As required | Consumable |
| 28 | Emery Mandrel | paper mandrel | Consumable |
| 29 | Rubber Wheel | white - as required | Consumable |
| 30 | Rubber Bullet | green - as required | Consumable |
| 31 | Drill Bits | As required | 5 |
| 32 | Flux with Solder Plate | Solder Plate with Borax | 15 |
| 33 | Napkin (Small Towel) |  | Consumable |
| 34 | Metal Weighing Scale | Min Per person, can increase | 2 |
| 35 | Solder block | Min Per person, can increase | 15 |
| 36 | Solder Alloys | Min Per person, can increase | Consumable |
| 37 | Different types of findings like clasp, jump rings, clamps, mountings, bead caps, Ear post or back etc., |  | Consumable |
| 38 | Bowl with water |  | Consumable |
| 39 | Protective eye gear |  | 30 |
| 40 | Loupe/ Magnifying lens | 10x Handheld Loupe/ Optivisor | 30 |
| 41 | Metal Purifying Acids | As required | 30 |
| 42 | Water, Beaker Set |  | Consumable |
| 43 | Flex Shaft with attachments | On work bench | 15 |
| 44 | Ring Clamp/ Metal Holder |  | 15 |
| 45 | Divider, Compass, Scribe set |  | 30 |
| 46 | Hand Drilling Tool Set |  | 15 |
| 47 | Cup Bur Tools |  | 15 |
| 48 | Gauge |  | 15 |
| 49 | Grinding machine |  | 1 |
| 50 | Grinding or abrasive wheels |  | Consumable |
| 51 | Vernier caliper |  | 5 |
| 52 | Finger guards |  | Consumable |
| 53 | Work apron |  | 30 |
| 54 | Emery sticks |  | Consumable |
| 55 | Bristle wheels |  | Consumable |
| 56 | Pumice wheels |  | Consumable |
| 57 | Split Mandrels |  | 15 |
| 58 | Scraper with wooden handle |  | 15 |
| 59 | Scriber |  | 15 |
| 60 | burnisher |  | 5 |
| 61 | Third Arm for Soldering |  | 15 |
| 62 | T square |  | 15 |

## 

## Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Projector
2. Computer/laptops
3. Internet connectivity
4. Whiteboard

# Annexure 2: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the apprentice on the required competencies of the program.

1. Assessment System Overview:

* Batches assigned to the assessment agencies for conducting the assessment on SIP or email
* Assessment agencies send the assessment confirmation to VTP/TC looping SSC
* Assessment agency deploys the ToA certified Assessor for executing the assessment
* SSC monitors the assessment process & records

1. Testing Environment – The assessor should:

* Confirm that the centre is available at the same address as mentioned on SDMS or SIP
* Check the duration of the training.
* Check the Assessment Start and End time to be as 10 a.m. and 5 p.m.
* If the batch size is more than 30 for STT and/ or 50 in RPL, then there should be 2 Assessors.
* Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.
* Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
* Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
* Check the availability of the Lab Equipment for the particular Job Role.

1. Assessment Quality Assurance levels/Framework:

* Question papers created by the SME are verified by the other subject Matter Experts
* Questions are mapped with NOS and PC
* Question Bank covers all performance criteria (PC) under each NOS of a QP. Each question can cover one or more PCs. Which means that every question needs to be mapped with PC.
* There are sufficient number of questions in the question bank, where multiple questions are available for each PC. Typically, the number of questions should be 3 to 4 times the number of PCs.
* Each question bank has around 150 to 200 questions.
* Each question has a difficulty level mentioned against it and the question bank has a good mix of easy, medium and difficult questions. So, for example out of 200 Questions the proportion could be 25 difficult/ hard, 75 Medium and 100 Easy level questions.
* Other than the Multiple-choice question (MCQ) few questions are created for Practical and viva too. For e.g., for 150-200 QB contains approximately 10-15 Viva & 10-15 practical questions.
* Assessor must be ToA certified & trainer must be ToT Certified
* Assessment agency must follow the assessment guidelines to conduct the assessment

1. Types of evidence or evidence-gathering protocol:

* Time-stamped & geotagged reporting of the assessor from assessment location
* Centre photographs with signboards and scheme specific branding
* Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
* Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos

1. Method of verification or validation:

* Surprise visit to the assessment location
* Random audit of the batch
* Random audit of any candidate

1. Method for assessment documentation, archiving, and access

* Hard copies of the documents are stored
* Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage
* Soft copies of the documents & photographs of the assessment are stored in the Hard Drives

# Annexure 3: Mode of Training

The following Modules/NOS may also be delivered online for which the resources are provided in the given table.

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No.** | **Module Name/NOS Name (As Per Curriculum)** | **Name of Mapped Online Component** | **URL of Mapped Online Component** |
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|  |  |  |  |
|  |  |  |  |

**Infra requirement:**