

Learn to facet through hands-on training

Australian Facetors' Guild Limited

These courses have been developed for the purpose of training facetors to competently cut coloured and colourless gemstones. The courses are sponsored by the **Australian Facetors' Guild Ltd and will be held in 2023**

Students are encouraged to have some knowledge of Gem Cut Studio or GemCad.

The Levels will be conducted for 30 hours each and include a large practical component. All participants will be encouraged to proceed on the basis of individual competencies and needs.

Introduction to Faceting - (Level 1)

30 hours

The basic techniques of faceting will be developed and assessed at the novice level. There will be a number of short lectures and demonstrations interspersed with practical sessions each day. [You will be expected to competently complete three basic cuts, Eight-Sided Brilliant With Coloured Quartz Citrine, Standard Round Brilliant with Topaz and a Step Cut with Coloured Quartz, i.e. Amethyst](#) . You will be introduced to basic gemmology for Facetors.

Certificate in Faceting - (Level 2)

30 hours

Progression to this Level is based on previous completion of Level 1 or evidential requirements. During this module, participants will be introduced to more advanced cuts including [ovals \(Topaz\), cushions \(Amethyst\), barions, scissors \(Zircon\) and trilliant designs \(Garnet\)](#). You will be required to complete three cuts which demonstrate these design elements. You will also gain further experience in orientation and preforming techniques and ways to accommodate inclusions and improve yields. Design principles and the use of Gem Cut Studio will also be included at this Level.

Repair and Investment Cutting (Level 3)

30 hours

To enrol in this course you must have extensive experience in basic and advanced cutting and also be proficient in GemCad or Gem Cut Studio.

For this Workshop (Level) you must complete at least three tasks including: One repair cut or re-cut, create and cut a design to suit a piece of natural rough and one cut which demonstrates your ability to mix design elements of step, barion, cushion or scissors cuts.

Cost and Registration

Cost is \$500per + 50 for book Level for AFG members. Registration form is attached or available by email from carolvdp@gmail.com or from the AFG Website www.facetorsguild.com.au

GemCad/Gem Cut Studio sessions will be payable on the day (TBA) - \$20.00 per person.

You will be advised of enrolment confirmation by email, letter or telephone after receipt of your deposit.

Minimum number to conduct the course at each Level is EIGHT persons.

Introductory Faceting - (Level I)

30 hours

At this level you will be assessed on your completed stones, including eight-sided brilliant or standard round brilliant and a step cut. A Statement of Attainment will be issued for satisfactory completion of this Level.

Setting up a faceting workshop. Setting up a faceting workshop; Types of machines; lighting; accessories

Types of laps. Cutting, pre-polishing and polishing laps; Preparing laps; lubricants and cooling liquids.

Preforming and dopping. Recognition of flaws (inclusions, fractures, etc); Orientation; Preforming; Dopping techniques; Transferring techniques.

Cutting an Alpha brilliant or an Eight-sided brilliant.

Cutting a standard round brilliant. Choosing Design angles; Preforming; Faceted girdle or continuous girdle

Cutting the pavilion; Polishing the pavilion; Cutting and polishing the crown.

Cutting a two or three tier step cut. Orientating the gemstone; Cutting steps. You may choose to cut a full three tier step cut (Emerald cut).

Gemmology for Facetors. The basics for Facetors -Physical properties; Optical properties; Importance to selection of cutting and polishing techniques and materials.

Improving your finish (review of progress) Mechanism of polishing; Some causes of scratches; Dopping and transfer problems; Improving the prepolish; Lap contamination; Effects of gemstone properties; Some polish mixtures.

Cutting sapphires. Properties of corundum; Orienting a sapphire for cutting; Shaping by hand; Choosing a design; Colours in sapphires and rubies; Crystal growth and colour zoning; Inclusions. (Select, preform and cut a sapphire)

Maintaining faceting machines. *Accuracy of faceting machines – how to check; Basic maintenance; Adjusting a faceting machine; Transfer errors.*

Certificate in Faceting - (Level 2)

30 hours

At this level you must complete at least three cuts, including one oval cut, plus any two cuts which demonstrate your ability to facet a barion, cushion or scissors design.

Faceting diagrams. Interpreting faceting designs and diagrams; Improving designs; Meetpoint faceting; Development of modern faceting diagrams and use of Gem Cut studio or Gem Cad.

Barion cuts. Principal of a barion cut; Barion Oval; Barion Rectangle; Scissors Rectangle cut; Brilliant Rectangle cut .

Cushion cuts. Types of cushion cuts including old mine and other “native” cut designs; modern cushion cut – square and rectangular.

Oval cuts. Shapes of ovals - ratios and calibrated stones; Lost light or fish-eyes; Reducing the depth of designs; Commercial and barion ovals. (You must complete one oval cut).

Triangle and shield cuts. Mini-Barion Triangle, Barion Shield Cut or Trilliant.

Repair and Investment Cutting (Level 3) 30 hours

At this level you must complete at least three tasks, including one repair cut or re-cut, create and cut a design to suit a piece of natural rough plus any one cut which demonstrates your ability to mix design elements of barion, cushion or scissors cuts.

Determining cut to suit rough. Preforming shape with reference to material and inclusions; Measuring and calculating ratios; selecting best designs for the material;

Modifying existing cuts. Use of Gem Cut Studio changing angles on a needs basis;

Designing a new cut. Freeform techniques; modifying existing designs.

Repair cutting of damaged stones. Assess and ascertain cutting parameters of a faceted stone that has to be repaired or re-cut; calculating ratios of crown and pavilion heights and depth to width; estimating weight return and possible value;

Re-dopping and realignment techniques. Realigning main facets; finding old angles and indices;

Tasks selected may include the following:

- *Re-polish a sapphire that has been heat treated;*
- *Re-polish a table;*
- *Remove chip from the girdle without greatly altering the size and weight;*
- *Re-cut a stone to fit a standard size setting;*
- *Re-cutting of poorly (native) cut stones to improve value and performance.*
- *Modify a cut to suit a piece of sapphire rough;*
- *Design a cut for high yield for sapphire/zircon;*

Materials required

Following is a list of what you need to bring as well as your own faceting machine.

1. Basic faceting accessories

- A tall freestanding desk lamp - Daylight or Quartz Halogen bulb (essential).
- A hand lens or loupe is essential. (Belomo 10X triplet is the best for \$50).
- Metal tweezers for holding hot objects (essential)
- A spirit burner or small gas torch (some will be provided at a central work station)
- Facet wax for dopping
- Cold dopping epoxy (e.g., Dextone or similar)
- Diamond powder (#3000 or #8000) and (#50,000 or #100,000) and Baby Oil OR prepared pre-polish and polishing compounds (For any Quartz: Linde A or Cerium Oxide depending on what laps you bring.)
- Vernier calipers for measuring rough (not a ruler) - Digital with non-chip jaws.

2. Other materials

□□ Notebook, For level 2 and 3 + lead pencil (any HB, B type) and ruler

□ Permanent black marker

□ Calculator (optional) – can use phone calculator

□ Cover for faceting machine (old sheet or towel)

□ Power board (4 socket) and a lead (approx. 3 metres)

3. Faceting rough

You are required to have your own faceting material. Parcels of rough (Peridot, Zircon, Garnet, Topaz, coloured Quartz, man made Corundum etc) will be available for purchase from the coordinator before and during the courses.

For Level 1: It is recommended that you have about 3 or 4 pieces natural gemstones natural clean rough (topaz, quartz any colour) which are about 10 mm across as practice material.

For Level 2. It is recommend that you have 3 or 4 pieces of natural gemstone. Parcels of rough (Peridot, Zircon, Garnet, Topaz, man made corundum etc) will be available for purchase from the coordinator before and during the courses.

Natural gemstones. Please ensure the natural material is light and reasonably clean.

For Level 3: You will need two faceted stones for re-cut and repair; natural rough for design and modify exercises; natural or synthetic for a new design exercise – test cut.

We recommend that you bring your own gas lift chair especially if using a VJ or if you have back problems.

Please retain this list for your records.