

## CATALOG

**Howard Academy for the Metal Arts**  
**PO Box 472, 168 W. Main Street**  
**Stoughton, Wisconsin 53589**  
**www.howard-academy.com**  
**608-873-5199**  
**800-843-9603**  
**FAX: 608-873-0960**

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### ABOUT THE SCHOOL

#### I. PURPOSE AND GOALS

The apprenticeship system used to train goldsmiths and jewelers since the middle ages is no longer practical. The inexperienced person seeking a position in the jewelry trade with on-the-job training, which is the modern version of an apprenticeship, will find very few opportunities. Goldsmiths or commercial jewelers just can't afford the time, extra tools, precious materials and expensive mistakes involved in training a novice. The fact is that aspiring craftsmen must have proficiency in the basic skills required before they can expect to find a job that will further improve their skills and earnings.

There are many schools which offer short courses on various jewelry techniques and procedures. Most of these are aimed at people who already have some work experience in the jewelry trade or related fields. Such courses offer condensed training spread over a one- to ten-day period with lots of handouts and lectures but little hands-on experience or practice sessions. The result for a new student is lots of theory and handouts but no gain in proficiency.

The Howard Academy for the Metal Arts was founded to provide vocational training in metal arts techniques for people seeking employment or self employment as goldsmiths, jewelers or other positions in the metal arts field. To that end, we have taken a low tech, low cost approach to teaching the various techniques and basic skills involved. The emphasis is on creating proficient craftsmen able to translate ideas and designs into finished products efficiently, profitably and with pride in craftsmanship.

Our basic curriculum focuses on mastering a foundation of basic techniques then constructing new techniques using skills already in use. Initially, students study specialized techniques and their applications to commercial jewelry or goldsmithing work. After students have learned the jewelry trade applications, we expose them to a broad spectrum of uses for their new skills in other areas of the metal arts. Sculpture, black smithing, foundry work, forge welding, minting and toolmaking are some other areas students can explore, experience and expand their abilities.

Innovation, versatility and proficiency imparted during training make our programs useful for all types of students. Anyone who wishes to enhance their creative ability by increasing their technical ability would benefit. Our cost per class hour and student to teacher ratio (12:2 max.) is one of the lowest in the country. We seek to graduate only top notch creative craftsmen for entry into a profession that really **needs** skilled professionals and is willing to pay them well.

## II. CURRICULUM DESCRIPTION

### BASICS, COMMERCIAL JEWELRY, GOLDSMITHING AND PRODUCTION TECHNIQUES

- A. Average course length - 3 to 14 months
- B. Average cost - \$4,500 to \$21,000 + tools and materials
- C. Counseling and assessment of your skills before making curriculum choices allows you to enroll for a full or partial course of training described below.
- D. Course content = 77+ projects relating to the following:

	<u>Course Content</u>	<u>Approx. Hours:</u>
1.	Filing and shaping	40
2.	Saw piercing	30
3.	Drilling and burr uses	40
4.	Tool making and treating	20
5.	Soldering and miniature welding	60
6.	Riveting and other fastening methods	35
7.	Sizing	60
8.	Setting	40
9.	Finishing, polishing, and plating	25
10.	Repairs	80
11.	Casting	40
12.	Practical gemology - do's and don'ts	8
13.	Production techniques - basic	12
14.	Troubleshooting	15
15.	Lectures and demonstrations	time varies;
16.	Guest lectures and demonstrations	items 15 - 17
17.	Observation of working shop	may = 335 hrs.
18.	Semi-final project	40
19.	2nd counseling: curriculum and skill levels	n/a
20.	Advanced hand tool techniques	100
21.	Advanced fabrication techniques	200
22.	Design for production	100
23.	Solving design problems w/techniques	80
24.	Hand engraving	240
25.	Die making and use	120
26.	Gold, silver and non-ferrous metal smithing	80
27.	Black smithing	120
28.	Welding for light duty and arts applications	80
29.	Mold making, jig and tool making	100
30.	Advanced production techniques and more	140 = <b>545 - 2,240 hrs.</b>

## III. INSTRUCTORS: WILLIAM L. HOWARD, Master Goldsmith AND GUEST EXPERTS

William L. Howard, our headmaster, has been working within the jewelry trade for over 45 years as a repair jeweler, diamond setter, custom goldsmith, designer, manufacturer, gem dealer, consultant, and instructor. He is intimately acquainted with the working needs of craftsmen on the wholesale and retail levels of the trade. Mr. Howard has exhibited and sold at regional, national, and international trade shows and art events across the U.S. His work is in private collections all over the world. He has observed, first hand, commercial jewelry operations and metalworking techniques in this country and abroad. In his own workshops, he has trained over 50 apprentices who have all gone on to other jobs within the jewelry trade. During the course of this experience, he designed and implemented numerous apprenticeship and training programs for various Wisconsin agencies, the Veteran's Administration, public schools, etc. He has trained hundreds of students through seminars, artist in residence projects, trade demonstrations and vocational school classes. This experience has lent his instruction techniques and performance standards a very demanding yet practical flavor which we feel will greatly benefit the serious student interested in the metal arts as a profession.

## IV. METHOD OF INSTRUCTION

We sincerely believe that there is no better teacher than experience. Our method of instruction involves lectures and demonstrations, but concentrates on a carefully planned and designed series of bench work projects. These are designed to impart a working knowledge of the most useful and practical techniques that the student will need in actual work experience. The techniques learned in one project aid the student in mastering other more complex techniques in the next. The goal of the curriculum is to ingrain a repertoire of techniques which can be adapted and combined to better solve the problems they will encounter in the marketplace. Challenge and practice creates proficient craftsmen.

Each project will be thoroughly explained to the class as a whole followed by a demonstration. After the lecture and demonstration, if any individual student needs assistance or further explanation it will be available. Many of the demonstrations will be videotaped in color with microscopic detail for ease of review.

Observation and experimentation augment the learning process. To that end, the Academy maintains a retail venue, a custom jewelry and repair shop and a forge and sculpture studio in conjunction with the School so students may see in practice what they are learning. Many demonstrations relate to techniques involved with work in progress. It is expected that students try the demonstrated techniques in addition to assigned projects. Thus, students generate experience and problem solving skills through doing.

Our grading system is very simple; either a project is done properly or it isn't. Students will get a pass or fail for their try on that particular project. If they wish to try again before going on to the next project, they will be encouraged to do so. When the project is completed successfully they will receive a passing mark. Time taken to complete a project while learning a new technique, quality of finish, and successful use of techniques involved are criteria recorded for future information requests from prospective employers. However, the students' grades on the projects are based solely on whether or not they completed them satisfactorily. A student must complete all the projects successfully before they will be awarded their diploma. Our records on students' grades and general progress will be available for their information so they can be constantly aware of what areas need more effort and what areas they have mastered. Credit for previous training or experience will be given once a student demonstrates they have a working knowledge of the techniques in question.

Students work at their own pace according to individual ability. We do not, as a matter of policy, expel students for unsatisfactory progress and would not deny them re-entry if they wished to try again after withdrawing from the School.

## V. SCHOOL CALENDAR

The School is open Monday through Friday, 9:00 a.m. to 12:00 p.m. and 1:00 p.m. To 6:00 p.m. We are closed for the following holidays: Memorial Day; Fourth of July; Labor Day; Thanksgiving Day; and during Christmas break from December 15-New Year's Day. ( a time credit is granted for Christmas break)

## VI. SCHOOL'S GOVERNING BODY AND OFFICIALS

Owner, Chief Administrator and Master Goldsmith:  
Master Goldsmith:  
Master Silversmith:  
Blacksmith:

WILLIAM L. HOWARD  
MELISSA HOWARD  
GLENN PRESCOTT  
AARON HOWARD

On Demand:

- Hollow Forming & Forging - Tim Jensen
- Engraving - Dmitriy Pavlov

## SCHOOL POLICIES

### I. TUITION, OTHER COSTS AND REFUNDS

- A. Tuition is computed at \$1,500.00/month with a one-month minimum charge for short-term and is prorated at the rate of \$75/day after the first month for the purpose of computing any refunds.
- B. Tuition can be paid monthly for short-term and quarterly or in full for the planned term of enrollment. **However, the number of payments cannot exceed four (4) installments beyond a down payment (if any). A down payment and its amount is optional but no installment paid afterwards can be more than twice the amount of any other payment. We do not impose any finance charges.** We cannot offer any payment plans beyond those stated or we violate the Wisconsin Consumer Act.
- C. All payments are due in advance of instruction by the first of the month or the next business day (Monday through Friday).
- D. Required tools and supplies must be paid for prior to delivery or use. The maximum cost for a set of jeweler's bench tools, materials and supplies was \$2,400 as of Jan, 1997. A list is included.
- E. The School will issue a refund within ten (10) calendar days of any tuition owed if a student's withdrawal or dismissal is within the three-business-day cancellation period.
- F. A student who does not attend classes for ten consecutive class days and who does not provide the School with an explanation before or during the absence, is considered to have withdrawn from school after the 10<sup>th</sup> day.
- G. Partial refunds shall be made as follows:
1. No refunds will be made after 60% of the course has been completed by the student.
  2. When a student cancels their enrollment after three business days but before 60% of the course has been completed, the refund would be computed as follows:

<u>At Least</u>	<u>But Less Than</u>	<u>Tuition Refund</u>
1 unit/class	10%	90%
10%	20%	80%
20%	30%	70%
30%	40%	60%
40%	50%	50%
50%	60%	40%
60%		<b>No Refund</b>

As part of this policy, the school may retain a one-time application fee of no more than \$100. The School will make every effort to refund prepaid amounts for books, supplies and other charges. A student will receive the refund within 40 days of termination date. If a student withdraws after completing 60% of the instruction, the School may refund a pro rata amount if withdrawal is due to mitigating circumstances beyond the student's control.

3. The charge to a student who cancels enrollment during the first week will not exceed \$100.
4. Unearned tuition is refunded automatically after completion of a course.
5. Tool refunds will be made for tool items returned in good condition. Refunds for unused materials and supplies are made for those items in good condition.
6. Time credits for leaves of absence or sick days are granted for use at the end of the course and are not considered unearned tuition as they are granted for time used during the course. They may be used for seminars or transferred to another party but such a transfer must be approved.

### II. ENROLLMENT - FULL TIME STUDENTS

- A. First come, first served until classroom space is filled. **A high school diploma or equivalent is required for entrance. Normal vision and motor skills are assumed for applicants. The course is taught in English so English comprehension is required.**

- B. No discrimination regarding age, sex, race, religion, origins, or creed.
- C. Enrolled students will have first option on available space if they wish to extend their term of instruction. Students newly enrolled in the full course receive the next priority for space, followed by short-term students.
- D. Students applying for enrollment will be put on a wait list. Those wishing to pre-pay tuition will be considered enrolled and placed in a class as soon as space is available.
- E. Short-term students' option for space to extend their term can only be used when there are no full course or pre-paid students that need the space. However, short-term students will be given preference over applicants on the wait list.
- F. Wait lists for pre-paid students and applicants shall be compiled in chronological order according to date received.
- G. Students and applicants on the wait list will be given as much time as possible when an opening is available, so that they may obtain needed tools and make any personal arrangements necessary to attend the School. Students may begin a class on any day that classes are being conducted, but will find that they are behind other students in regard to the projects they are working on.

### III. DISCIPLINE AND DISMISSAL

- A. Discipline for conduct which disrupts the study of other students, interferes with the instructor's training activity, or acts which endanger other students or instructors shall be as follows:
  - 1. One verbal warning to cease such conduct or activity will be given.
  - 2. If such conduct or activity does not cease immediately, the student may be expelled from the class and premises for the remainder of the day at the discretion of the instructors.
  - 3. If a student repeats the offense and persists to the point where the instructors feel it necessary to expel him/her for a second day, he/she may either be expelled for the day or dismissed entirely.
- B. Dismissal - Permanent
  - 1. For willful destruction of school property.
  - 2. For theft of any type from school or fellow students.
- C. Complaints - outside school administration
  - 1. Complaints which may not be settled to a student's satisfaction may be resolved by calling the Wisconsin Educational Approval Board, 30 West Mifflin Street, PO Box 8696, Madison, Wisconsin 53708-8696 at phone # 608-266-1996

### IV. LEAVES AND ABSENCES

- A. Leaves of absence due to illness or other valid reason may be arranged with the School according to a student's needs. The student will be reinstated at the earliest possible date. However, if the leave is exceptionally long, we may require make-up projects to bring their techniques back up to the level they were prior to leaving. Additional time credited for excused absences and holidays will be added to the end of the term to compensate for time missed.
- B. Unexcused absences, tardiness, class cuts, and other unprofessional behavior is entirely the student's responsibility. There is no distinguishing between the types of absences. We wish to point out that it may be frowned on by prospective employers. We keep records on the above for future use in giving reference to employers.

## V. CERTIFICATION AND REFERENCES TO EMPLOYERS

- A. Diplomas for successful completion of a course will be awarded to those students who satisfactorily complete all of the assigned projects.
- B. No general letters of reference or recommendation will be given to students other than their diploma. **We do not offer a job placement service.**
- C. References to prospective employers will be based only on the quality and craftsmanship of the projects completed and the time taken to complete them. Absenteeism and tardiness will also be discussed. No personal opinions of a student's character or personality will be given.
- D. Grading is based solely on whether or not a student completes the assigned projects satisfactorily. Work habits, use of time, craftsmanship, quality of finish, and effective use of techniques will be noted but only for progress evaluation and future references to employers. They do not affect the student's grades. If a student's projects always fail, we may advise them to withdraw from the school.
- E. Permission will be required before we will give out references to prospective employers regarding a student's ability, work habits, efficiency, craftsmanship, or completion. A student can give us permission in writing before they leave, by mail, or by telephone when the occasion requires it. Student records are stored indefinitely.

## VI. TOOL POLICY AND CHECKLIST

- A. We require that all students have the necessary personal hand tools to complete the course projects. A check list of these tools is provided on the following pages. The tools should be purchased as far in advance of the class starting date as possible. Suppliers' inventories tend to be unpredictable and delivery times usually exceed those stated in their catalogs. Back orders are more the rule than the exception. Tools can be ordered through the school.
- B. Our policy on expendable materials is the same as our tool policy. A list of required expendable materials is included following the tool list. The ordering procedure for these items is the same as for the tools. The required items are carried by local suppliers and the school.

### C. TOOL ADVICE

The quality of work done and the lessons learned depend on having the right tools, equipment and materials to do the job. Our Academy provides shop equipment, materials and supplies much as any employer would. **You will be required to provide your own personal bench tools, textbooks, materials or supplies** as will many prospective employers.

We do not consider ourselves in the tool business and do not require that students buy tools, books, etc. from the School but we do insist that the tools students use are the right ones. If students have tools which meet our criteria they need not purchase others, but please be aware of the dangers of uninformed tool buying. Many students over the years have wasted time and money by buying poor quality or the wrong tools entirely.

As a service to our students, we have selected and assembled complete sets of the proper bench tools which are available for purchase. These tools are high quality, practical and durable. With proper care the sets will last a lifetime. We hope students will take advantage of this service. If a student is new to metal arts and is determined to shop, PLEASE ask our advice. The quality points on tools are subtle and sometimes even invisible. A list of required tools, books, materials, and supplies is attached .

**VII. STUDENTS' PROPERTY AND SAFETY**

- A. We are not responsible for student's personal property. Lockable steel cabinets are provided for each bench as well as steel lockers but we suggest that students obtain a padlock to secure their tools, etc. when left on the premises during non-business hours. Business hours are from 9:00 A.M. to 12:00 P.M. and 12:30 P.M. to 5:30 p.m. Monday through Friday.
- B. Proper techniques and personal safety precautions will be explained and demonstrated to all students prior to their being authorized to operate school machinery, power tools, or equipment. Students must realize that there are inherent risks involved in the normal operation of heat-operated equipment, power tools, and even hand-operated machines and tools. This necessitates a responsible attitude for one's own safety. We cannot demand that students sign a waiver of liability and agree to hold us harmless in the event that you are injured, but we do ask that students sign the following statement:

**I have read the above statements regarding school policy and understand their content as relates to my role as a student at Howard Academy for the Metal Arts. I especially understand that there are inherent risks involved in the normal use of school equipment, hand tools, machinery, power tools, and equipment. I further understand that I should be responsible for my own safety when using such things and that by signing this statement I waive none of my legal rights but agree that I have been thoroughly warned.**

---

Date

Signature of student / Parent or Guardian if minor

**VIII. SCHOOL CREDENTIALS**

The Howard Academy for the Metal Arts is approved and licensed annually by the State of Wisconsin, Educational Approval Board. We are bonded and fully insured. We are approved by the V.A. for those students who qualify for veterans benefits. The Wisconsin Department of Workforce Development list us as a qualified vendor for training benefits available through various programs such as DVR. The school is also certified and approved by the Immigration and Naturalization Service (INS) to accept foreign students and issue I-20 forms for student visas through SEVIS. We are also recognized by many trade and professional organizations for our training.

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PO Box 472, 168 W. Main Street  
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608-873-5199  
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STUDENT APPLICATION

Today's Date \_\_\_\_\_

Name \_\_\_\_\_

Daytime Phone \_\_\_\_\_

Address \_\_\_\_\_

Alternate Phone \_\_\_\_\_

Birth date (optional) \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Are you allergic to metals? \_\_\_\_\_ Are you right or left handed? \_\_\_\_\_

In case of emergency, notify \_\_\_\_\_ Phone \_\_\_\_\_

Do you have time limitations for the completion of this course? (explain) \_\_\_\_\_

**Curriculum selection(s) with estimated time and maximum cost (see page 2):**

\*\* Tuition is based on \$1,500 per month with one-month minimum enrollment

- \_\_\_\_\_ Full Course of Training - (14 mo. - 2,240 hours - \$21,000); Items 1 - 30
- \_\_\_\_\_ Goldsmithing and Production Techniques - (6-9 mo. - 1440 hours - \$13,500); Items 19 - 30
- \_\_\_\_\_ Basics and Commercial Jewelry Techniques - (3-5 mo.- 800 hours - \$7,500); Items 1 - 19
- \_\_\_\_\_ Short-Term: Items \_\_\_\_\_ Estimated Time: \_\_\_\_\_ mo. \_\_\_\_\_ hrs \$ \_\_\_\_\_ max

If course is filled, choose one of the two options below:

- Refund tuition and tool money immediately and put me on the wait list \_\_\_\_\_ **OR**
- Apply \$ \_\_\_\_\_ as prepaid tuition and enroll me in next course opening \_\_\_\_\_

I agree to comply with the Howard Academy for the Metal Arts' methods and policies as described in its current catalog.

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Student signature / Parent or guardian if minor)

**Note: See Customers Right to Cancel on Next Page**

**YOU MAY CANCEL THIS TRANSACTION, WITHOUT PENALTY OR OBLIGATION.  
PLEASE READ THE NOTICE ON THE FOLLOWING PAGE ABOUT YOUR RIGHT TO CANCEL  
UNDER THE LAW!!!!**

**\* do not write below this line \***

\*\*\*\*\*  
**HOWARD ACADEMY USE ONLY: Enrollment is not complete or accepted without the following information and an authorized signature.**

Enrollment period: \_\_\_\_\_ Beginning: \_\_\_\_\_

Date accepted: \_\_\_\_\_ Accepted by: \_\_\_\_\_  
Chief Administrator

Tuition paid \$ \_\_\_\_\_ Tool money paid \$ \_\_\_\_\_ Date \_\_\_\_\_

**YOU MAY CANCEL THIS TRANSACTION WITHOUT PENALTY OR OBLIGATION.**

**PLEASE READ THE FOLLOWING NOTICE  
ABOUT YOUR RIGHT TO CANCEL UNDER THE LAW!!!!**

**CUSTOMER'S RIGHT TO CANCEL**

\_\_\_\_\_  
Date of transaction

You may cancel this transaction, without any penalty or obligation, within three business days from the above date. (Saturdays, Sundays, and holidays are not business days.)

If you cancel, any property traded in, any payments made by you under the contract or sale, and any negotiable instruments executed by you will be returned within 10 business days following receipt by the seller of your cancellation notice, and any security interest arising out of the transaction will be canceled.

If you cancel, you must make available to the seller at your residence, in substantially as good condition as when received, any goods delivered to you under this contract or sale; or you may if you wish, comply with the instructions of the seller regarding the return shipment of the goods at the seller's expense and risk.

If you do make the goods available to the seller and the seller does not pick them up within 20 days of the date of your notice of cancellation, you may retain or dispose of the goods without any further obligation.

To cancel this transaction mail or deliver a signed and a dated copy of this cancellation notice or any other written notice, or send a telegram to the seller at the following address:

Howard Academy for the Metal Arts  
PO Box 472, 168 W. Main Street  
Stoughton, Wisconsin 53589

Not later than midnight of \_\_\_\_\_  
(date)

**NOTE:** Purchase of educational goods and services offered by a school is deemed to take place when written and final acceptance is communicated to the student by the school. If the representative who enrolls you is authorized to grant written acceptance at the time you enroll, and does so, the cancellation period ends at the time specified above. If you have not been accepted in writing at the time you enroll, the cancellation period does not end until midnight of the third business day after the day you receive written acceptance by certified mail from the school.

I hereby cancel this transaction

\_\_\_\_\_

\_\_\_\_\_  
Buyer's Signature

\_\_\_\_\_  
Buyer's Name (please print)

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
City, State, Zip

## STUDENT ENROLLMENT INSTRUCTIONS

### STEP 1: APPLICATION

- 1) Read carefully all of the information in the catalog.
- 2) Fill out **one** copy of the application on page **8** and fax or mail it to the HOWARD ACADEMY. **SEND NO MONEY AT THIS TIME.** We will contact you to discuss skill assessment, curriculum selection(s) counseling, tool needs and to learn about your goals as they relate to your training. To some degree this can be done over the phone but we prefer a personal interview whenever possible. A visit gives you a chance to see the facilities and arrange for housing along with other necessities.

### STEP 2: ENROLLMENT

- 1) Complete the tool checklist (page 11) in duplicate to let us know what tools you have if this is still required. Keep a copy for your records.
- 2) **Carefully read** the duplicate set of pages 2 through 8 provided.
- 3) Sign and send the duplicates of pages 2 through 7 and two of 8, the tool list, your tuition down payment and any tool payment to the Academy. Please send separate checks for tuition and tools and label the checks. Sending this via certified mail with a return receipt requested is a good idea. (9 signed pages and 2 checks)
- 4) Make checks payable to HOWARD ACADEMY.
- 5) Keep the duplicate copies of all completed forms for your records.
- 6) We will notify you in writing by certified mail as soon as your application has been accepted and when you may expect to start your training. Receipt of our notice at this point completes your enrollment process. Notification will include your final acceptance copy of the page 8 application.
- 7) If you have been on a wait list, notice by certified mail means an opening is available and items 1 through 6 must still be completed as soon as possible.

Thank You,

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goldsmith@howard-academy.com  
US: 800-843-9603  
FAX: 608-873-0960  
Phone: 608-873-5199

# **FACILITIES INFORMATION FOR BASICS, COMMERCIAL JEWELRY, GOLDSMITHING & PRODUCTION TECHNIQUES**

## **HOWARD ACADEMY FOR THE METAL ARTS**

168 West Main Street, Stoughton, Wisconsin is a two story, brick building which has been beautifully restored but is equipped with modern mechanical systems and wiring. Built in 1880, it has served the community as various mercantile endeavors including a grocery store and the last use was as a pottery studio and art gallery.

Howard Academy now occupies first floor and basement. The front 1/4 of the building is operated as a retail gallery and jewelry store selling pottery, paintings sculpture and of course jewelry by us and our students. We also provide custom jewelry, repair services and gold buying for the community. The classroom, offices and workshops occupy the rest of the first floor. The premises are alarmed and monitored by ADT, a central station system. It is also equipped with closed circuit audio / video monitoring. A DWD approved ventilation and make-up air system was engineered and installed for the classroom and work areas. We can now offer handicapped access to our facilities.

At present we have set up the main student classroom for 8 student workstations which include a workbench, adjustable chair, electrical outlets, lighting, oxygen/propane torch, shared chemical cleaning unit, locking storage chest and a central audio/visual display for observing demonstrations of procedures which require magnification. We have installed a trinocular microscope with a state of the art, color video camera built into the system which can be used for live demonstrations that can be recorded for later review. We consider this to be a huge asset for training as a majority of the techniques taught require magnification to execute or observe. In the past, we had to demonstrate in steps and pass the work piece around for individual inspection which slowed the teaching process greatly.

Surrounding the central classroom are various work areas designed to accommodate specialized technical procedures as well as a working production shop staffed by the master goldsmith and professionals employed in the retail operation. This shop provides students the opportunity to observe in practice the subjects they are learning and to acquire actual work experience as part of their training. Custom work and repairs are done for the public as well as a gold buying service. All students are encouraged to learn to deal with the public for custom design, jewelry repair and how to test the quality and buy gold from the public.

In the classroom adjacent to the student workbenches is a large general workbench equipped with vises, a bench shear, various tool holders, a light duty surface plate for pounding and a rolling mill for making sheet metal and strip. The bench is also equipped with a drawplate and tongs for making wire and tubing as well as a disc cutter and bezel punch for making components out of sheet metal. An anvil and stand with a set of hammers is provided in the classroom for heavier work. A selection of forming stakes, dapping blocks, swage blocks, various tool holders, a vise, stools, wooden stumps, pitch bowl, lead block and related materials and supplies are also provided. The other side of the classroom is set up for mold making and wax work. The investment mold making area is equipped with a washout sink, manual, steam and ultrasonic cleaning equipment, a vacuum pump, a vibrator for investing mold flasks, investment, investment mixing tools, flasks and supplies. The wax working area is equipped with a pneumatic wax injector, electric wax working pens, a wax extrusion gun, assorted hand tools for forming and carving wax, clear rubber mold making system, a wax turning lathe, scale, calculator and assorted molds, dies, stamps, tools and supplies used to make wax models of jewelry for casting.

The rear of the building is set up for casting procedures and includes mold curing and burnout kilns, a centrifugal casting machine, scale, calculator, oxy/propane torch, ingot molds, gas forge, a small blast furnace, movable vent hood, related hand tools and accessories. There is also a separate area set up for grinding and polishing. It is equipped with two buffing machines which have dust collection systems built in, and face safety shields for student use in addition to their personal safety glasses and dust masks. There is also a fine and coarse wheel bench grinder, a belt sander, high speed polishing lathe, an oil bath diamond saw, a water fed grind stone, a precision edge sharpener, a power chop saw for steel, a band saw and related materials, accessories and supplies.

Another part of the classroom is devoted to minting and engraving. It is equipped with a 4 foot precision lathe for medium size turning, facing, boring and threading work in steel or other metals. There is also a miniature tool room lathe for small precision work, a miniature, high speed drill press, a large pedestal drill press, and a nine-ton capacity fly press for coining, die striking and embossing. There is a tabletop engraving machine, an inside ring engraving machine and related alphanumerical templates and letter sets. Engraving equipment provided consists of graver's blocks, a power diamond hone for precision sharpening, a rotating vise stand for larger work and related materials, accessories and supplies. We also have a PUK111 miniature TIG welder, a CNC machine, and a miniature milling machine.

Adjacent to the minting and engraving area is the master's workshop which is used for producing work sold retail and wholesale, student demonstrations and observation. This area is fully equipped but is not for student use.

At this time, our full scale forge and blacksmithing shop is completed.. Equipment includes a 100# power forging hammer, a 75# treadle hammer, gas and coke fired forges, large anvils, bending and forming equipment, large shears, punches, cutting and forming equipment, cutting and heating torches, electric welding equipment, drill presses, hydraulic forming press, compressor, pneumatic tools, grinding equipment and related hand tools and supplies. Initially, this facility was used for research and development of creative work but we have expanded the curriculum to include this aspect of metal working. At present we include basic forging, tool making and making Damascus steel as part of the curriculum. We feel the experience of larger scale work coupled with the small gives our students a broader perspective on metalsmithing.

**TOOL ORDER**  
**Howard Academy for the Metal Arts**

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**PLIERS:**

- 1 flat nose - 4 3/4" - box joint - smooth jaw
- 1 chain nose - 4 3/4" - box joint - smooth jaw
- 1 round nose - 4 3/4" - box joint - fine tip
- 1 bow tongs / ring bending - box joint
- 1 oblique cutters - flush cut 4 1/2"
- 1 side cutters - bevel cut - 4 1/2"
- 1 parallel jaw - flat smooth jaw
- 1 World's Best solder snips school
- 1 stone setting / prong bending

**HAMMERS:**

- 1 chasing hammer - economy - 1 1/8" face
- 1 rawhide mallet - 1 1/2"
- 1 power hammer - flex shaft - w/ spring Foredom
- 3 replacement tips
- 1 Goldsmiths hammer

**FILES:**

- 1 half round ring file 6" cut 2
- 1 half round ring file 6" cut 4
- 1 set #2 cut needle files, set of 6
- 1 barrette file - 6" - cut 4
- 1 bastard file local
- 1 key file set
- 1 round, pointed file - 6" - cut #2
- 1 1/2 round wide - flat tip - 2nd cut
- 4 file handles - plastic w/ screw on inserts
- 1 file card - wood
- 1 wax file

**LAYOUT:**

- 1 precision digital caliper
- 1 automatic center punch
- 1 scribe - hardened steel, double end
- 1 divider - 3"
- 1 steel square 3"
- 1 draftsman pencil local
- 1 precision pointer local
- 1 chinese white local

**TWEEZERS:**

- 1 fine - locking - diamond tweezers
- 1 crosslock - soldering tweezers
- 1 AA - non magnetic stainless - acid proof
- 1 third hand - round base
- 1 stone holder - 4 prongs
- 1 copper tongs

**BURRS:**

- 1 setting burrs (#1-30)
- 1 round burr set of 15
- 1 hart burr set (12 - 15)
- 1 cup burr set
- 1 drill set #61-80

## GRAVERS:

- 1 #52 round bottom
- 1 #54 round bottom
- 1 #2 onglette / #2 point
- 1 #40 flat bottom
- 1 #43 flat bottom
- 1 14/6 lining - straight
- 1 18/10 lining - straight
- 1 square / script - 2.35mm sq.
- 1 #32 Bevel - carbon steel
- 1 #2 Knife
- 10 short ½ round mushroom handles (1 1/2"D x 1 1/4"L)
- 1 graver sharpening fixture
- 1 combo stone

## GENERAL HAND TOOLS:

- 1 Rotamax 25 system  
& KIT. includes: speed control - constant torque - metal casing  
w/ handpiece #30 & chuck key
- 1 flex shaft accessory kit -
- 1 bench pin & anvil
- 1 rubber file block & holder
- 1 wooden ring clamp w/ groove
- 1 jeweler saw frame 2 ¼"
- 1 jeweler saw frame 5"
- 1 ring mandrel - grooved - size calibrated
- 1 ring mandrel - round - size calibrated
- 1 plain ring mandrel - without sizing marks
- 1 burnisher - straight
- 1 bench block 4" square
- 1 beading tool set
- 1 solid niobium solder pick school
- 1 millgrainer set - sizes 2,4,6,8,10,12 - 6 pcs, w/ handle
- 1 pin vise - swivel head - 2 double ended collets (0 - 1/8")
- \*1 \*optivisor (head band) - 2 ½ X at 8"
- OR 1** \*telesight eyeframe - 2 ½ X @ 7"
- \*1 10X loupe - B&L triple aplanatic
- 1 steel ruler - 6" - metric & inches - SS
- 1 non-asbestos soldering pad - 6x6 - up to 3000° F
- 1 hard, non-asbestos pad - 6x6 flat - 2000° F
- 1 magnesia block 6x3x1 ½"
- 1 wire gauge - non ferrous wire sizes - gauge & thous..
- 1 scraper - 3 sided to a pointed end w/ handle
- 1 alcohol lamp w/knob adjust & cap - glass
- 1 saw blades - 2/0 - 1 gross
- 1 saw blades - 4/0 - 1 gross
- 1 saw blades - 6/0 - 1 gross
- 1 saw blades - 8/0 - 1 gross
- 1 casting crucible

## FINISHING:

- 1 Vigor super buff - 6"x 50ply x 4 row stitching
- 1 satin finish buff - very fine - 4 x 3/4"
- 1 satin finish buff - ultra fine - 4 x 3/4"
- 1 satin finish buff - fine - 4 x 3/4"
- 1 knife edge felt lap - 3"
- 1 flat felt lap - 4" x ½" - medium
- 1 felt ring buff combo - flat edge wheel w/ tapered mandrel
- 1 white diamond tripoli - 1 lb.
- 1 yellow rouge - ½ lb - 1 lb

## **GENERAL EXPENDABLES:**

1	Can light oil (3 in 1)	local
1	2 oz. Jar of Free Flow Flux - Hoover & Strong	school
1	Hair Flux Brush	local
1	4 oz. dropper bottle	school
2	Sheets each - 320., 400 & 600 grit sandpaper	local
1	Box Band-aids	local
1	Jar powdered boric acid	local

## **Student Supplies:**

### Metals:

casting grain - sterling silver as needed  
18 ga. Sheet - as needed  
20, 18, 16, 14, & 12ga. Sterling Silver Wire - as needed  
Hard, Medium & soft silver solder - as needed  
Brass sheet - 3 mm, 2mm, & 1mm - as needed  
Brass wire - 3mm, 2mm, & 1mm - as needed  
Copper sheet & wire, asst'd - as needed  
Bronze sheet, asst'd - as needed  
Cold Rolled Tool Steel, asst'd - as needed  
Hot Rolled Mild Steel, asst'd - as needed  
10, 14, 18, & 24K gold, asst'd small quantities - as needed  
Assorted heads, prong settings & findings of silver & gold - as needed  
Hard, medium & easy gold solder - as needed

### **Chemicals:**

Gases / oxygen / propane / acetylene / argon / C-25 / compressed air / nitrogen / nitrous oxide etc. as needed  
Epoxy / 5 min, super glue, epoxy / special, contact cement, tapes, etc. - as needed  
Acetone, laquer thinner, spot remover, naphtha, paint thinner, denatured alcohol, etc. - as needed  
Nitric, acid, muriatic acid, sulfuric, hydrochloric, hydroflouric, sparex, etc. - as needed

### **Miscellaneous Supplies:**

See thru mold compound - as needed  
Mold investment compound - as needed  
Abrasives & special polishing & finishing compounds - as needed

### **Text Materials:**

Reference materials, tables, charts & handouts - as needed

### Jeweler's Resource

The Complete Metalsmith pro edition

Howard Academy Training Manual - (provided by school)

Catalogs & trade publications

**TOTAL FOR TOOLS AND SUPPLIES = \$2400.00**

**NOTE: LOCAL AND SCHOOL ITEMS ARE IN ADDITION TO THE ABOVE QUOTE**

### **Please Note:**

Each student will be responsible for keeping a running total for stones and precious metals used. Should the tally exceed \$200 then they will be charged by the school for further supplies as needed. This is necessary due to the increase in the cost of gems and precious metals in recent years. The other \$200 is for non precious metals, chemicals, Miscellaneous and text materials.

## Howard Academy for the Metal Arts Comparative Market Study

Schools	Public or Private	Jewelry	Engraving	Tool & Die	Forging	Foundry	Sculpture & Modeling	Multi-Media	Class Length (Days)	Total Hrs. per Course	Tools Furnished	Class-room Exper.	Prod. Exper.	Average Cost per Course	Average Cost per Hour
G.I.A.	Private	7	No	No	No	No	No	No	4	24	Yes	Yes	No	\$ 745	\$31.04
Stewart Internat'l.	Private	3	No	No	No	No	No	No	5	35	Yes	Yes	No	\$ 550	\$15.71
Blair Jewelers	Private	1	No	No	No	No	No	No	5	35	Yes	Yes	No	\$ 595	\$17.00
Jewelry Inst. of America	Private	3	No	No	No	No	No	No	5	40	Yes	Yes	No	\$ 545	\$13.62
C. Bauer Studio	Private	1	No	No	No	No	No	No	5	30	Yes	Yes	No	\$ 475	\$15.83
Jewelry Arts Inst.	Private	1	No	No	No	No	No	No	9	30	No	Yes	No	\$ 425	\$14.16
Miami Jewelry	Private	11	No	No	No	No	No	No	7	35	Yes	Yes	No	\$ 495	\$14.14
Trenton Jewelry	Private	5	No	No	No	No	No	No	5	35	Yes	Yes	No	\$ 500	\$14.28
Rever Academy	Private	24	No	No	No	No	No	No	4	24	Yes	Yes	Yes	\$ 350	\$14.58
Connor Jewelry Institute	Private	5	1	No	No	No	No	No	5	35	Yes	Yes	No	\$ 595	\$17.00
Penland School of Crafte	Private	5	1	No	9	No	1	No	14	40	Yes	Yes	No	\$ 500	\$12.50
Mendocino Art Center	Public	6	No	No	No	No	2	No	2	14	Yes	Yes	No	\$ 105	\$ 7.50
Arrow Mount Sch	Public	5	No	No	No	2	2	No	4	28	No	Yes	No	\$ 195	\$ 6.96
Appla-chiam Ctr.	Public	2	No	No	No	2	2	1	5	35	Yes	Yes	No	\$ 185	\$ 5.28
Ne. Wis. Tech Coll.	Public	4	1	No	No	No	No	No	36	528	No	Yes	No	\$ 3,390	\$ 6.42
Cranbrook Academy	Private	0	No	No	No	No	No	1	180	900	Yes	Yes	No	\$14,600	\$16.22
Jewelry Design Institute	Private	5	No	No	No	No	No	No	5	35	Yes	Yes	No	\$ 595	\$17.00
<b>Howard Academy</b>	<b>Private</b>	<b>28</b>	<b>3</b>	<b>3</b>	<b>10</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>90-425</b>	<b>2040</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>\$ 1,500 per month</b>	<b>\$9.38</b>

**HOWARD ACADEMY for the METAL ARTS**

**GRADING CATEGORY ## CLASS HOURS REQUIRED & TECHNIQUES 2/13/97 ##**

- 1- Hand Tools (40 hours)** - forming, filing, shaping & step finishing by hand.
- 2- Saw Piercing (30 hours)** - profiling, straight lines, inside cuts, kerfs, thrumming.
- 3- Drilling & Burr Use (40 hours)** - layout, precision drilling, drill press use & milling, burr applications.
- 4- Tool Making (20 hours)** - small steel forging, hardening, tempering, spark tests, quenches.
- 5- Soldering (60 hours)** - silver, gold & lead, step soldering, butt, lap, sweat, dovetail, mortise & tenon, flux, poker soldering, heat sinking, capillary action, heat shields, resists & pits, fire coat.
- 6- Riveting & Cold Fastening (35 hours)** - solid, hollow & blind rivets, flanges, hinges, staples, screws, joints, inlays, catches, gluing, press fitting, tension, folding
- 7- Sizing – Rings & Bezels (60 hours)** - forging, stretching, butt & dovetail joints, solder selection, troubleshooting for old joints, measuring, limits.
- 8- Setting Stones (40 hours)** - bezels, bead, britecut, beading, prongs, illusion, needlepoint, gypsy & channel mounting, 2 pearls & small cabochons - thread setting, trouble shooting gems.
- 9- Finishing (25 hours)** - step finishing, polishing, decorative surface treatments, plating, cleaning.
- 10 Repairs (80 hours)** - tips, prongs, shanks, joint pin & catches, chains, breaks, dents, hollow work, build up, restoration, patching, blending, burnishing, measuring, trouble shooting. Ethics, take in procedures, warning customers, fixing mistakes, paying for fubars.
- 11- Casting (40 hours)** - wax work, carving & build up, finishing, spruing, investing, weighing, burn out, melting, casting, rubber injection mold use, injection waxes.
- 12- Practical Gemology (80 hours)** - general working properties of gems, heat, cold, thermal shock, steam, ultrasound, abrasion, chipping, inclusions, imitations, synthetics, etc. Dos and don'ts, ID, trouble shooting, counting, warning, rejects.
- 13- Basic Production (12 hours)** - metal models, see thru mold making, RTV molds, 1, 2 & 3 part molds, cutting molds, planning parting lines, skin molds, mother molds, frames, release agents, no-cut molds, stamps, open molds, undercuts, holes, cores.
- 14- Trouble Shooting (15 hours)** - avoiding headaches, repair problems & gem disasters, work to refuse, when to refuse liability, how to CYA, counting, Take in & cleaning procedures, looking for trouble, what to look for, identifying needed work.
- 15- Lectures & Demonstrations** - all phases of instruction include class and individual L&Ds.  
*Part of 335 hours\**
- 16- Guest Lectures & Demonstrations** - by various experts in various metal working skills, etc.  
*Part of 335 hours\**

**17- Observation of Working Shop** - daily show and tell on work in progress & demonstrations etc.

*Part of 335 hours\**

**18- Semi-Final Project (40 hours)** - designed to demonstrate what student has learned from training thus far

~~~~~(1 thru 18 for diploma in commercial jewelry techniques) ~~~~~

**20- Advanced Hand Tool Techniques (100 hours)** - decorative filing, filigree, scrolls, repousse, engraving surface treatments, raising, sinking, embossing, coining, stamping, dapping, fusing, roll printing, forging, etc.

**21- Advanced Fabrication (200 hours)** - 3D forms, cage work, sheet applique, open work, hollow forms, bas-relief, combining casting, married metals, mokume gane, folding, 18KY, platinum, fusing, welding, soldering, jigs, investment soldering, granulation, niello, inlay etc.

**22- Design for Production (100 hours)** - planning work steps for casting & fabrication - making recipes that fit your techniques and efficiently reproduce multiples of your design.

**23- Design Problems (80 hours)** - solving design problems by adapting & combining your techniques to make it.

**24- Hand Engraving Techniques (240 hours)** - lettering alphabets, monograms & inlay, niello work, seals, printing plates.

**25- Die Making & Applications (120 hours)** - steel cutting, die cutting, stamp making, coining dies, embossing, dies, cutting dies, forming dies, spring tools, fullers, machine tool use, grinding, punching, hammer use, power engravers, hot striking, cold striking, embossing, metal behavior, collars, jigs, etc.

**26- Advanced Metalsmithing (80 hours)** - non-ferrous cold and hot forging, raising & sinking, Anaclastic.

**27- Blacksmithing (120 hours)** - forging, drawing, upsetting & welding with traditional coke forge, gas forge, ornamental iron work, sculpture work, Damascus steel, armor, bladesmithing, etc.

**28- Welding (80 hours)** - Oxy/acetylene torch, MIG, TIG and forge welding for light duty and arts applications.

**29- Advanced Jig, Tool & Mold Making (100 hours)** - for cast bronze and foundry work, production jigs for forged work and making machine tools for shop use.

**30- Advanced Production Techniques (140 hours)** - cupola furnace making & use in cast iron, core casting for sculpture work, metal molds, sand casting for undercut designs, large scale work, making scale models, enlarging work to scale, lost foam casting etc. and by request.

**Total hrs = 545 to 2,240 hrs**

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## **SEMINAR INFORMATION**

Howard Academy for the Metal Arts is more than happy to conduct private seminars for jewelers, goldsmiths and groups of jewelry professionals. This can be done on a one on one basis or in groups on weekends, weekdays or evenings. Private seminars are done on an appointment only basis so that we can properly schedule your training. Fees are \$200 per day (8 – 10hrs.) Just call for an appointment.

You can choose the topic, the time and the duration of the seminar! We will work with you to design the training session to meet your goals or those of your employer and make the most use of the time available.

For example, you have wanted to find a seminar on mokume gane, granulation and platinum, prong tipping but you haven't been able to find the three together. Now you can.

We offer private seminars in all areas of the metal arts, from basics to advanced and creative techniques. If you are already in the trade and just want to pick up some new tricks then this is for you. If your boss wants to expand the shop to include a casting and mold making operation this is for you. We can even help you select the right type & size equipment.

### **EMPLOYERS & SHOP OWNERS TAKE NOTE:**

**Training expenses are tax deductible**

**Seminar costs are only \$200 per day per person**

**You learn what you want to learn not just what is offered**

**We are not like most schools - we don't have semesters - we don't have prerequisites**

**You can come virtually any time and study anything you want**

**Young and old are welcome ages 8 to 80**

**Beginners and pros are welcome**

**Special arrangements can be made for seminars in remote locations**

### **ASK ABOUT OUR PLANS FOR VACATION SEMINARS !!!**

**SUNNY MEXICO IN FEBRUARY SOUND GOOD?**

Call 800-843-5199, 608-873-9603 or fax 608-873-0960

email: [goldsmith@howard-academy.com](mailto:goldsmith@howard-academy.com)

website: [www.howard-academy.com](http://www.howard-academy.com)

# Frequently Asked Questions

## School Calendar

School hours: 9:00 - 12:00 A.M. 12:30 - 5:30 P.M. Monday - Friday

### **SCHOOL WILL BE CLOSED THE FOLLOWING DAYS:**

July 4<sup>th</sup> ~~ Memorial Day ~~ Labor Day ~~ Easter ~~ Thanksgiving Day ~~ Christmas break\*\*  
~~ New Years Day

\*\*Christmas Break is December 15<sup>th</sup> through January 1<sup>st</sup>.

## Length and Cost of Programs

At Howard Academy, our students may start anytime as we do not have set semesters. Students learn at different levels with an individualized curriculum set up to best suit their needs.

We offer :

- **Full Course Training - 14 months**
- **Goldsmithing & Production Techniques - 6 to 9 months**
- **Basic & Commercial Jewelry Techniques - 3 to 6 months**

**Cost of tuition is \$1500 per month.**

**Tools and supplies** are purchased separately with the help of the instructor for a cost of about \$2000 and \$400 respectively. This is a onetime cost for top of the line tools that will last a lifetime.

## Housing

At this time, student housing is not available. However, there are usually rooms for rent in private homes for \$250-\$400 per month, and motels and B&B are available for seminars and short stays.

## Graduation

Graduates of the **Full Course Training Program** receive a **Goldsmithing Diploma**. A **Commercial Jewelry Certification** is awarded upon completing the shorter programs. Although we do not provide job placement, we do receive job announcements from jewelers all over the country. Students and graduates are encouraged to evaluate and respond to these opportunities.

**ARE YOU STILL INTERESTED?**

**PLEASE CALL FOR MORE DETAILED INFORMATION.**

**WE HOPE TO HEAR FROM YOU SOON!**

# HOWARD ACADEMY for the METAL ARTS

168 WEST MAIN STREET / P.O. Box 472  
STOUGHTON, WISCONSIN 53589  
Ph.: (608) 873-5199 ~~ Fax: (608) 873-0960

800-843-9603 USA [www.howard-academy.com](http://www.howard-academy.com)

## ART METALS, CAREER TRAINING FOR EMPLOYMENT OR SELF EMPLOYMENT

**Diamond setting:** bead, bright cut, pave", prong, basket, common prong (clusters), gypsy, channel, illusion, fishtail, tension, Invisible setting, bezel, fancy shapes and custom shapes.

**Repairs:** tips, prongs, beads, shanks, adjustable shanks, dents, hollowware, chains, catches, and other busted stuff.

**Forging:** shaping metal with hammers and stakes on the anvil.

**Engraving:** decorative and stone setting uses plus carving and die making for relief work.

**Chasing:** decorative work with hammer and punches to create relief designs in solid metal by compression from the front.

**Repousse:** decorative work using hammers and punches to create relief designs by forming sheet metal from the front & back.

**Blacksmithing:** forging, hardening & tempering steel for tools and forging and welding with arc and forge to create scrollwork, wrought iron sculpture and architectural items.

**Foundry:** various methods of casting molten metals into sand and other types of molds on a large scale.

**Goldsmithing:** creative techniques to make jewelry products directly in the gold without casting using soldering & welding as well riveting and other cold joining methods to assemble the work.

**Granulation:** method of welding 22K gold beads to solid surface by the 100"s at one time.

**Mokume Gane:** wood grain metal — a fusion process bonding different 2 or more layers of different metals and patterning.

**Niello:** method of applying a black metal decoration into the surface of gold, silver or other metals like enamel.

**Sculpture:** Methods and materials for making art work out of cast metals, fabricated, forged or repousse metal sheet and also methods to carve solid work from wood or stone to scale and then enlarge to finished size.

**Hollow forming:** vessel work such as sinking and raising chalices and other hollow forms for sculpture or table use.

**Platen Work:** large scale hollow forming for monumental sculpture or armor — life size or greater.

**Inlay:** methods and materials for mechanically bonding gold, silver etc., into steel or other metal surfaces in a decorative pattern.

**Minting:** the design and making of metal dies which are used to form relief patterns on coins or medallions.

**Die making:** design and methods of making various types of dies for striking parts and patterns for gold jewelry products.

**Die Forming:** design and use of various dies to form hollow sections of metal to be assembled into hollow jewelry items.

**Damascus Steel:** a forge welded laminate steel using mild and usually high carbon layers to make edged weapons.

There is more, so we do private seminars @ \$200/day for experienced people who just want to pick up some new techniques.