

## STUDENT HANDBOOK

### INTRODUCTION

The Greater Lansing Potters' Guild (Guild) is a non-profit corporation comprised of potters who share a common bond of commitment to clay and to a cooperative setting in which to work. It was incorporated in 1968 and is operated by the active membership. There are no paid personnel at the Guild except teachers. One purpose of the Guild is to sponsor instruction for the community. For this purpose, the Guild's Education Committee organizes and schedules adult student classes.

We welcome you as a student to our Guild. We want your time here to be pleasant and productive, and we hope that this experience will increase your enjoyment and appreciation of the ceramic arts. This handbook outlines the student program, provides tips on pottery making, contains a glossary and establishes the "ground rules" for student participation in the Guild. *The Guild is committed to providing a cooperative and interactive environment for all students regardless of their experience in working with clay. The Guild reserves the right to deny future enrollment or other opportunities to any student who does not adhere to Guild's rules and procedures or are inconsiderate of others in their use of the facility or its resources.*

### STUDENT PROGRAM

Class Terms: Each term includes ten class periods, and an 11<sup>th</sup> session for picking up pots after the final firing. Students may enroll in up to ten (10) terms of instruction. Depending on class availability, students may take the ten terms consecutively or intermittently. Students who have completed ten terms may be placed on a waiting list and may be eligible to enroll in additional terms only when there is an opening in a class.

Class Hours: Classes meet once each week during the term for three (3) hours, which includes instruction, practice and clean up. Please be punctual since the demonstrations are intended for all students and usually take place at the beginning of the class period.

Teachers: Our teachers are qualified individuals who either hold an advanced degree in ceramics or have decades of experience as professional potters and/or artists. Students are expected to work with the teacher to set realistic individual goals in pottery making.

Class Assistant: A Guild member is present during class and is available to explain Guild work rules, make schedules, take attendance and assist students and the teacher in matters concerning the student program.

Lab Hours: Lab hours are scheduled between the first and last class of the term. Each week, a three-hour day session, a three-hour evening session and a six-hour Saturday session are scheduled. Before the last class, additional lab hours are scheduled for the prior Sunday. A lab monitor (Visiting Potter or Guild member) is present for lab hours. The lab monitor is available to assist students, but is not supposed to act as an instructor. The lab hours and volunteer monitors are posted on the Education bulletin board.

Weekly lab hours: Mon: 12 – 3 p.m.                      Weds: 6:30 – 9:30 p.m.                      Sat: 9 a.m. -3 p.m.

Tuition: Fees for classes include the cost of instructors, use of the workshop and appropriate equipment during classes and lab hours, plus glaze materials, utilities, and other costs associated with the student education program. Students should anticipate changes in tuition fees during the time they participate in the education program.

Tuition Refund: No Refunds of tuition will be made once class begins.

## **FACILITIES, EQUIPMENT AND MATERIALS**

Students may use most of the Guild's facilities, equipment and materials **except** for the pug mills, the compressor and experimental and members' only glazes. A portable cardboard spray booth may be set up and used in the permanent glaze spray booth, once instruction on its use has been given. Other restrictions, identified in this Handbook and by the class assistant, must be followed.

**Guild equipment and materials are not to be taken from the Guild**, except for your clay allotment (see clay below). Glaze material and /or clay from outside the Guild are **not** to be brought into the Guild. Our clay and glazes have been formulated to work effectively in our kiln. "Foreign" materials may contaminate our supplies and/or cause damage to your work. You may use underglazes that are purchased from elsewhere, as long as they can be fired to Cone 10, and are used in combination with Guild glazes. Please note the following procedures:

Student Shelves: Each student is assigned a shelf for storage of personal items, tools, clay and ware. A few drying shelves for student use are available; however, for your peace of mind and control over your ware during the drying process, arrange your own shelf to accommodate drying of your work to the maximum extent possible.

Clay: Each student is provided with 50 pounds of clay per term. Up to 50 additional pounds may be purchased from the class assistant during the term. Personally recycling your clay is recommended; it is economically beneficial as well as making it more workable. Collapsed pots can be wedged with dry clay, wrapped in plastic bags and stored on your shelf for future use.

A variety of clay bodies are available. Beginning students are given clay with grog. Grog adds a gritty, rustic texture called "tooth"; it reduces shrinkage and helps the clay dry evenly. It also helps clay structures to stand taller without slumping. More advanced students may choose white or red stoneware clay, B-mix with or without grog, or porcelain (premium priced and for experienced potters only). Cost differences for the alternative clays must be paid in cash to the class assistant at the time of purchase. Clay with grog is the best choice for beginners, hand builders, as well as for those making pieces for raku firing.

Scrap clay: Scrap clay is clay from the cleanings of your wheel or work area, trimmings from tooling and other very wet scraps. Most clay is reusable—don't throw it away unless it is contaminated with such items as glaze materials or dirt. Everyone is encouraged to collect and recycle their own scrap clay. If you don't want to do that, place the clay into the barrels covered with grating by pushing it through the grating. **EXAMINE YOUR CLAY SCRAP CAREFULLY FOR SPONGES, TOOLS, NEEDLES, CHAMOIS, PLASTIC, etc. THEY ARE DANGEROUS WHEN LEFT IN THE CLAY.** Put **contaminated clay** (e.g., floor sweepings) into trash cans.

Sinks: Use only the sink in the main room to wash clay from tools, bats, pans, hands, etc. First, rinse these items so that most of the clay goes into the clay slop barrels so as to minimize the amount of clay that goes down the sink. Then wash them in the plastic pans in the sink then rinse with water from the tap. This saves ground water and minimizes clay accumulation in our plumbing.

Glaze Materials: Unless a glaze is market experimental or "members only," batch glazes are for everyone's use. Samples of these glazes are on display. Consult the glazing guidelines and discuss details with your teacher or class assistant if you are considering overlapping glazes. Some glazes are labeled for "members only" or "experimental", and these are not for students' use.

Sieves: Sieves are fragile and expensive. Use only brushes to force glaze material through a sieve. Never use a spoon or any hard object on sieves. After use, wash sieves thoroughly.

Plaster: Plaster of Paris, or plaster in any form (e.g., powder, bats, molds) is not allowed in the studio. Gypsum board (dry wall) may be used only if raw edges are taped.

Usage of library materials. Books, magazines, and videos are available in the guild library. Students cannot check out these materials but can look at them during class or lab times. Students should always "check-in" with the class assistant or lab monitor when using the guild library.

## **OPERATIONAL PROCEDURES**

A general sequence of events occurs in the studio: 1) construction of the piece, 2) drying of the piece, 3) bisque firing, 4) application of glaze and 5) glaze firing. Events 1, 2, and 4 are your responsibility. Guild members will take the ware through the firing steps. Glaze ware is fired when there is sufficient ware to fill the glaze kiln. Within reason, student ware has priority in all glaze firings except the last firing before a sale.

Green Ware: Pieces that have not been fired are called green ware. When your green ware is thoroughly dry, it should be placed on the ware carts provided. When pieces are bone dry, they are very fragile, so don't handle other peoples' ware. To insure that your ware will not need to be handled unnecessarily, fill the back of the shelf first. For the same reason, do not put pieces that are of short height on cart shelves that are suitable for tall pieces.

Bisque Ware: Claim your bisque ware as soon as it is unloaded from the kiln and store it on your shelf until you are ready to apply the glaze.

Glazed Bisque Ware: After you have waxed the foot (bottom) and applied the glaze, clean droplets of glaze off the foot, measure the piece, record the piece, fill out the kiln slip and place it beside or under your piece on the proper ware cart using the same careful procedure as when handling greenware (see greenware above and glaze guidelines below). As indicated for green ware, do not put pieces that are of short height on cart shelves that are suitable for tall pieces.

Glazed Ware: After glazed ware is placed on the glaze shelves, ware should remain there for at least three days so others will have an opportunity to see the results (this is an important learning experience). This procedure is required of members, visiting potters and students.

Clean Up: Each student is to clean up the area where he/she works – wheels, work areas, glazing area, wedging areas, tools, bats, floors, e.g. everything. Cleaning sponges, brooms, dust pans, and brushes are in ample supply for easy and efficient clean up. Any clay swept off the floor is to be placed in the trash can, not in the scrap clay barrel. Turn the wheel off when you are finished.

Points System: The points system is a method of tracking the amount of ware to be glaze fired, measured in cubic inches (one cubic inch equals one kiln point). Each student is credited with 6000 kiln points at the beginning of the term. This is translated to a maximum of 6000 cubic inches of ware that can be fired during any single term by one student. Kiln points cannot be accumulated from term to term, nor are they transferable to other persons. Intermediate and advanced students are expected to be sufficiently discerning about their ware to fire only those pieces that demonstrate quality work and aesthetic value. Your teacher and class assistant can help you make such judgments. See Glazing Guidelines in this handbook for measuring and recording pot dimensions .

Health and Safety:

- Glaze materials may cause skin irritation in some people, therefore we recommend wearing protective gloves when glazing.
- The Guild is a smoke-free environment. We also ask folks not to wear perfume, as it is an irritant to some people.
- If you do not feel well, please try not to expose others, either by not coming to the studio or by wearing a mask.
- Please do not bring children or guests to the guild during class.
- Pets are not permitted at the Guild.
- Sanding green or bisque ware should be done outside. If done inside, sanding puts dust and fine clay particles into the building AND lungs. If weather is not conducive to sanding outside, you should stand at a sink so that the particles fall into a tub of water to prevent them from becoming air-borne.

Last Class: All work on ware is to be completed by the end of the tenth class period. If you have completed your work prior to the last day, the class period may be used for further practice, instructor critique, or individual research in the Guild library. There will be no lab hours after the last class.

**Before leaving be sure that your shelf is cleared and cleaned.** Even if you are enrolled in a class the following term, you must remove your tools, materials, ware and personal items from the Guild. An exception is glazed bisque ware that may be left on the appropriate ware cart to be fired and picked up at a later time.

**GUILD SALES**

The Guild holds pottery sales semiannually, usually before Thanksgiving in November and before Mother's Day in May. Currently enrolled students are invited to enter up to eight (8) juried (by class assistant) pots in Guild Sales.

**HAPPY POTTING**

## GLAZING AT THE GUILD

### GLAZE DEFINITIONS

A glaze is a liquid suspension of finely ground minerals which is applied by brushing, pouring, dipping, etc. onto the surface of bisque fired ceramic ware. After drying, the ware is fired to the temperature at which the glaze ingredients will melt together to form a glassy surface coating. The three basic components of a ceramic glaze consist of:

1. **A glass former**

Usually in the form of silica (sand), it gives a glazed pot a glassy surface.

2. **A flux**

Fluxes are added to glazes to lower the melting temperature of the silica to a range attainable in a ceramic kiln.

3. **A Stabilizer**

Usually in the form of alumina, a stabilizer both increases the viscosity of the melted glass (glaze) to prevent it from running off the pot during firing and allows the glaze to stay in a glassy state as it cools.

Although a glaze is a glass, an unmodified silica glass requires too high a temperature before melting to be of practical use in ceramics. Fluxes are added to lower the melting temperature of the silica to a range attainable in a ceramic kiln. To prevent the melted glaze from running off the pot, a stabilizer is included to increase the viscosity of the melt and disrupt the recrystallization of the glaze components during cooling.

$$\text{Glass Former} + \text{Flux} + \text{Stabilizer} = \text{Glaze}$$

### Frequent additives to glazes

**Colorants** – usually oxides or carbonates of heavy metals.

**Flocculants** – usually bentonite or Epsom salts – are added to maintain glaze components in suspension and to prevent them from settling to the bottom of the container.

The characteristics of a specific glaze are determined by the exact amount and type of ingredients in the above categories. The goal is to create a glaze that meets the user's requirement for:

- A workable firing range
- Color
- Clay body fit
- Translucency or opacity
- Texture
- Gloss level

### Decorating slips and stains

There are several available for all to use, usually brushed onto small areas. Sample tiles in the glaze room show the appearance of slips under and over a selection of our glazes. The slips stick well to bisque ware, but can also be applied to greenware. The following are technically engobes because they contain enough flux to be used alone without flaking off or feeling rough, but may

also be used effectively in conjunction with many glazes. Here are a few highlights of the most popular:

- Blue – reliable but appearance is altered significantly by thickness of application
- Brown – reliable but appearance is altered significantly by thickness of application
- Black – often turns out brown when thin; may bubble and turn silvery if too thick
- Green – is never green in color; more like dark gray
- Yellows – if too thin, they aren't very yellow; if too thick, they are prone to run

The following must be used with a transparent or translucent glaze:

- Brindle White – is medium gray, and best used on leather-hard greenware
- Porcelain - is white and best used on leather-hard greenware
- Pinnell Green – is bright grass green and will stick to bisque ware
- Iron Oxides -- are usually brushed on and then partially wiped off to create variation in the base clay color or to provide emphasis of texture

## GLAZING GUIDELINES

### PREPARING Ware for glazing

1. Remove dust and dirt from bisque ware with a clean damp sponge. If the piece was sanded extensively and/or has nooks that are hard to wipe down, then it's a good idea to rinse it in the sink and let it dry overnight.
2. Apply wax resist to foot of pot up to 1/4" from bottom (that part of the ware that sits on the kiln shelf). It's a good idea to measure your pieces and write down the dimensions before waxing the bottom.

### PREPARING THE BATCH GLAZE

1. Check the batch glaze. If there are more than two (2) inches of water standing on top, call the teacher or class assistant for help in determining if water should be removed. **Do not make the adjustment yourself.**
2. Stir glaze thoroughly, scraping the ingredients off the inside bottom of the bucket with a spatula. For best results, re-stir regularly during use.
3. If the glaze appears to be too thick, check with a lab monitor or instructor for assistance.

### APPLYING THE GLAZE

The single biggest factor under your control that affects the results of your glazing efforts is glaze thickness. For most glazes, the thickness of a dime when dry is a good goal.

1. Apply glaze by pouring, dipping or brushing. (See application recommendations below.)
2. Wipe off glaze from foot of ware. Clean off 1/4" from bottom to accommodate glaze expansion and running.
3. If the glaze is too thick on your pot or you are unhappy with application, wash off glaze and allow to completely dry before applying another glaze (glaze will not adhere to a wet pot). Do NOT adulterate or alter glazes on purpose or accidentally. Take care to return all unused glaze back into the bucket that it came from only. Unlike paints, many glazes look alike, so please pay attention to what you are doing. If you are unhappy with the application, the glaze can be scraped back into the same container provided it has not been layered with other glazes. You can use a dry toothbrush to remove it. You can wash off the glaze, but then the pot must be completely dry before another glaze is applied. However doing this is wasteful of the Guild's resources and your own time, and therefore

should NOT be routine procedure because you forgot what you put on it or just changed your mind.

- An index card box of glaze tips on the windowsill of the glaze room is full of information for the edification of all.

## APPLICATION RECOMMENDATIONS

- Do not use experimental or “member only” glazes (these are clearly marked).
- Check with your instructor or class assistant before you glaze a piece to determine the best method of application.
- Glaze thickness is adjusted to the manner in which it is applied. When dipping, longer dips mean thicker; shorter dips mean thinner. One or two seconds is usually long enough for most glazes. Pouring can often result in very heavy glaze buildup. Spraying provides the most control of glaze thickness.
- When testing the effects of overlapping glazes, only overlap on the top half of the pot to avoid glazes running in the kiln. Check with your teacher or class assistant about specific glaze combinations.
- A general rule of thumb is that most shiny glazes tend to move and may ultimately run more than less glossy glazes. Chun, amber celadon, and the blue and red Pinnell glazes are most prone to running because they need to be applied slightly thicker for desirable color development. Beginners should refrain from using them except on the upper portion and insides of ware.
- The #6-based glazes are the most forgiving (#6 with opax, 1% & 2% rutile, Barb’s blue, and turquoise, Pan’s Grey)

## MEASURING AND RECORDING POT DIMENSIONS

- Measure for cubic inches (height x depth x width). Use the chart in glaze room. For any fraction of an inch, use next higher whole number. Minimum height for any pot is two (2” regardless of actual height. Note that height is the first measurement; this measure helps the stackers place pots on shelves that accommodate 2”, 3”, 4” etc sized pieces, enabling efficient and cost-effective stacking of the kiln.
- Record the dimensions and running total points in Student Points Book.

EXAMPLE:		cumulative total
Celadon bowl	Ht 4” x 6” x 6” = 144”	144
Segar blue vase	Ht 10” x 5” x 5” = 250”	394

- Fill out kiln slip.

## GLOSSARY

- bat** A disk or slab of wood or plastic on which pottery is formed or dried.
- batch glaze** Raw chemicals weighed to specific proportions designed to melt at predetermined temperatures and mixed with water.
- bisque** Unglazed fired ware.
- bone dry** Unfired pottery that has lost all moisture.
- clay** Decomposed granite type rock with finely sized particles making it plastic.
- earthenware** Low fired pottery (under 2000 degrees F.) usually red or tan with an absorbency of from 5 to 20 percent. (not used at the Guild)
- engobe (slip)** Clay slip with colorants used to decorate leather hard ware and bisque ware.
- foot** Ring like base of a ceramic piece, usually thicker than the surrounding body.
- glaze** A liquid suspension of finely ground minerals which is applied by brushing, pouring, spraying, etc. on the surface of bisque-fired ceramic ware.
- glaze fire** A firing cycle to the temperature at which the glaze materials will melt to form a glass like surface coating.
- greenware** Pottery which has not been bisque fired. Also known as bone dry ware.
- grog** finely ground bisque added to some clay bodies to enhance texture, reduce shrinkage and enable even drying.
- hand building** A method of making pots using slabs of clay, and using techniques of coiling and pinching.
- kick wheel** A potter's wheel powered by the potter by kicking a large wheel or treadle.
- kiln points** A system of currency to pay for glaze firing. A kiln point equals one cubic inch. At the Guild, students are allocated a specific number of kiln points.
- kiln furniture** Shelves and shelve supports used in kilns to hold ware.
- kiln slip** A piece of paper, color coded, on which is recorded a potter's name, date, type of glaze and dimensions of the ware to be fired.
- kiln wash** A protective coating of refractory materials applied to the surface of kiln shelves to prevent glaze from fusing the ware to shelves. Usually made of equal parts of flint (silica) and kaolin (china clay).
- kneading** See wedging.
- leather hard** Condition of green ware when some moisture has left the clay body, but still soft enough to be easily carved, burnished and, in some cases, distorts the shape.
- maturity** Temperature or time at which a clay or clay body develops the desirable characteristics of maximum non porosity and hardness; or to the point at which the glaze ingredients enter into complete fusion, developing a strong bond with the body, a stable structure, maximum resistance to abrasion, and a pleasant surface texture.
- oxides** Any element which combines with oxygen. Oxides are used in pottery for color and sometimes referred to as **stains**.
- oxidizing fire** A fire in which the kiln maintains an ample amount of oxygen. Electric kilns give an oxidizing fire.
- plastic or plasticity** The quality of clay which allows it to be manipulated and still maintain its shape without cracking or sagging.
- raku** a relatively low temperature firing method, done in the open, using raku-specific brushed on glazes
- raw ware** Unfired ware; also called greenware.
- reduction fire** A fire in which combustion is incomplete and no free oxygen remains in the kiln chamber, thus causing the metallic coloring oxides in the glaze and body to lose oxygen and to



revert to their basic metallic forms.

**slip clay** Clay containing sufficient fluxes to function as a glaze with little or no additions.

Examples: Michigan and Albany slip (very expensive).

**slip engobe** See engobe.

**stoneware** High fired clay with a slight absorbency. Stoneware is similar to porcelain, the chief difference being the color, which is due to iron and other impurities in the clay, and the density of the fired clay body.

**turning** The trimming of the walls and foot of a pot on the wheel while in the leather hard state.

**ware** Pottery or porcelain in the raw, bisque or glazed state.

**ware cart** Carts on which ware, ready for firing, is placed.

**wedging** Kneading plastic clay with the fingers and heel of the hands in a rocking spiral motion, which forces out trapped air pockets and develops a uniform texture.