

STUDENT TIPS

Here are some basic tips for the beginner,

- Always work in a well ventilated area. If you want to pursue this as a career remember that long-term exposure to chemicals is what you must protect yourself against.
- Peak summer and winter temperatures will change the setting conditions for all of your materials. The optimum ambient temperature for most materials is between 22°C-28°C.
- Keep a good record of all your experiments with different materials. Every material is different and it is easier to look-up the catalyst ratios of various materials in a book than to try and remember all of them. For instance, some RTV silicone rubbers have a catalyst ratio of 10:1 while others are 5:1 or 3:1, and fast cure catalysts are 0.5% or others 1%. Even the room temperature will sometimes cause you to alter the catalyst ratio. This is why it is vital to keep good records of experiments and variations.
- Vaseline is a universal separating agent, and can be used on a variety of materials.
- Plasticene is a great sculpting medium as your sculpture can be left for months without drying out and cracking. However, watch out if the temperature gets over 32°C as the plasticene will become too soft to work with. Plasticene can be re-used many times. You can put it in the fridge to harden it up during very hot days. During winter, if the plasticene is too hard, you can cut it up and stand it in a bucket of hot water.
- Always place a plastic shopping bag over your plasticene sculpture as the oil in the plasticene will collect dust and dirt.
- Always add plaster powder to water...NEVER add water to plaster. Gently sift the plaster powder through your fingers into a bucket of water until there is just enough plaster to cover the water. This is then the correct ratio.
- Some dental plasters are weight specific ie. powder/water ratio. These are specialty plasters and you should follow the instructions carefully.
- Salt can be added to plaster to speed up the set time.
- NEVER use Hard Finish plaster to make molds with. This is a renovators finishing plaster only and has a 24 hour set time.
- Alginate can be made to set faster by using warm water or slowed down by using cool water.

- Alginate face casts can be dangerous if you have never done it before. Always have a few trial runs to get familiar with a materials particular properties.
- Alginate CAN stick to hair so always give a light vaseline to eyebrows and moustaches etc. Stay away from beards.
- “There are only 1000 things that can go wrong when you use foam latex.” (Dick Smith)
- Polyester resin and water based clay aren’t compatible without using a good sealant on the clay.
- Shellac is a good general purpose sealer for plaster and clay.
- Dental suppliers have great metal sculpting tools, you’ll need to go in and look at their range before you choose the right ones for you.
- Always enquire if your materials suppliers have a catalogue they can send you, you never know what other weird and wonderful materials they may be carrying.
- If you’ve hit a brick wall and find you can’t go any further, talk the problem through with someone, they don’t have to understand everything you are doing, however I have found that just talking your own ideas out loud helps clarify the problem and usually helps you find a solution.
- Keep the workshop benchtops and floors clean.
- Upside down plastic soft drink bottles with the bottom cut off make good funnels.
- If latex becomes stuck in the hairs on your arms then use any moisturizing cream to remove it. This will not tear out your hair, which can be very painful.
- If you are making slip cast latex masks, always fill the plaster mold with latex and let it sit for 20 mins - 1hr before tipping the excess latex back into its container. Always seal a container of latex tightly as evaporation of the ammonia will cause it to congeal and eventually set. Never stand over a container of latex when you open it, the ammonia content is very high and can cause you to cough and give you a real headache.
- Latex does not set against vaseline.
- Always wear a mask, safety glasses and gloves when using chemicals, one stray drop in your eyes could be very damaging - for life.
- Grinding or sanding fibreglass can cause some people to break out in a rash, so be careful. If possible use a pair of disposable overalls

(available from hardware stores). Do everything possible to contain the spread of fibreglass dust, it is not an environmentally friendly product.

- When sanding fiberglass use dry sandpaper first and then use a wet/dry sandpaper with lots of water to get a very smooth, clean surface. If your fibreglass piece is to be put next to a persons skin then it is a good idea to seal it with an inert estapol or polyurethane paint.
- BEWARE: Silicone release spray can contaminate your entire workshop and make many of your finished pieces unpaintable.
- Don't allow lighted cigarettes near your workspace, this can be deadly.

None of this information is intended to replace those instructions supplied by manufacturers

How to break into this Industry

- Always take photos of your work. Never come looking for a job, even work experience, without some example of your possible talents.
- Always ring for an appointment, otherwise you may turn up at a studio to find no-one can spare you the time of day.
- If you are old enough to have a drivers license be prepared to start out as a runner or workshop cleaner, both of these jobs eventually lead to workshop experience. This is often the only way to get your foot in the door. Remember that there are a lot of older, more experienced sculptors and animatronics people in line ahead of you, so you will have to be patient until you get your chance. In this industry you learn something new every day.

Sculptors - what to put into a portfolio

Sculptors must be able to take their work through to completion, this means having a sound knowledge of mold-making, casting techniques and materials and finishing. I suggest that you only concentrate on the sculpting aspect to show in your portfolio, as it costs money and takes time to take the sculpture through the various stages to completion. Choose a subject that you want to sculpt and gather as much reference as possible. Do not attempt anything large, human head size is fine. Set a time deadline - 2 weeks is plenty.

Use plasticene as it is re-useable and won't dry out on you. You can leave a sculpture and come back to it with no problems. Don't sculpt in a room if the temp. is over 32°C as the plasticene will become very tacky and soft.

When two weeks are up ... STOP!!!

Take photos in good even light, and get them processed now. This gives you a chance to see your work at a distance and may help you critique your work objectively. Once you have the photos back and are happy with the way they turned out, tear your sculpture apart and begin another one. Practice, practice, practice, you only learn to sculpt by sculpting. The more you do, the better you will become, this is why a deadline is important. No art work is ever finished, only abandoned. If you allow yourself more time, in 2 months you will be sculpting slightly differently than when you started and so you will want to go back over what you originally did. This process is continual, you will always improve, so to get some photos for your portfolio you must stop, otherwise you may find 3 months have passed and you haven't finished one piece. Only include 2-3 photos of each piece in your portfolio.

Fibreglass, fibreglass, fibreglass. If you want to get some formal training then find out if your local TAFE has a fibreglass course. They are usually six weeks long and will give you a basic knowledge of fibreglass which is one of the most versatile materials that we use. Be prepared to start out in the fibreglassing/molding department, making fibreglass molds and sanding and finishing internal core sections. This department is critical for learning the techniques of molding then casting so that you understand the complex processes required to take a sculpture from plasticene through to a flexible skin that an animatronic creature needs.

The other materials you will learn to use are silicone, polyurethanes, epoxies, water based clay, alginate, dental acrylic, plasters and if you are lucky .. foam latex. With all of these materials always wear a respirator. A respirator is a high filtering face mask - one of the most valuable investments you can make.

Mechanical/animatronics - what to put into a portfolio

If you are interested in the robotics side of the industry then I suggest you start pulling apart radio controlled cars and helicopters to find out

what makes them work. If you have a mechanical aptitude then construct some body part (human, animal or alien) that requires cables (simpler) or motors (more complex) to move it. Both are used extensively to create a variety of movements required for a particular creature.

The most difficult mechanical piece to produce is an eyeball that can move left to right, up and down and has eyelids that blink. Make this and you stand a good chance of working in this industry.

Check out the internet for robotic sites, some lead you to suppliers that can be very helpful.

Here are some key words to type into your favourite web browser. You will find a lot of information this way as well as where your nearest suppliers are located.

Acetone**

Alginate

125gm Chopped Strand Mat

225gm Chopped Strand Mat

450gm Chopped Strand Mat

Dental stone (very strong plaster)

Epoxy Resin**

Foam Latex**

Fur (fabrics)

Gelcoat (filled resin)**

Mekp (resin catalyst)**

Plaster-Casting

Plaster Bandage

Plasticene (oil based clay)

Plastilina (oil based clay)

Polystyrene Foam (white block)**

Polyurethane (soft/hard foaming liquid chemical)**

Polyurethane Foam (green carving block)**

Polyurethane Elastomers/Foams(soft/hard liquid chemical plastics)**

Release Agents/Pva/Wax/Liquid**

Resin (LSE-Low Styrene Emission)**

Servo Motors

RTV Silicone Rubber**

Talc Filler
Ultracal (Patternstone U) Plaster
Water Based Clay

** denotes hazardous chemicals

Request a catalogue where possible and any MSDS (materials safety data sheet). This sheet will give you all the health and safety handling issues and all properties of each chemical. **READ THESE SHEETS AND FOLLOW THE INSTRUCTIONS CAREFULLY.**

Some of our major suppliers are:

Barnes Pattern Supplies - (Sydney and Brisbane, Australia)
Newbounds Plasticine - (Sydney, Australia)
ERA Polymers - (Sydney, Australia)
Australian Urethane Systems - (Sydney, Australia)
Walker Ceramics - (Sydney and Melbourne, Australia)
Bartfeld Textiles - (Melbourne, Australia)
Wings n Things - (Sydney, Australia)
National Fibre Technology - (Lawrence MA, USA)
Burman Industries - (Los Angeles CA, USA)
Gil Mosko Foam Latex - (Los Angeles CA, USA)
Robin's Hobbies - (Los Angeles CA, USA)
Bone Clones - (Los Angeles CA, USA)

OTHER REFERENCE BOOKS & MAGAZINES

Cinefex Magazine..the journal of cinematic illusion, PO Box 200027,
Riverside, California 92516
Available through most comic book stores.

Men, Make-Up and Monsters... Hollywood's masters of illusion & FX,
Anthony Timpone 1996, St Martin's Griffin, New York

Bizarro (& Bizarro Vol. 2), Tom Savini, 1983, Harmony Books, New York.

National Geographic

Cyclopedia Anatomicae, Gyorgy Feher 1996, Black Dog and Leventhal Publishers, New York

Skeleton Reference Books, available through Bookstores and Natural History Museums

VIDEOS/DVDs

FX Make-Up, Mold Making and Robotics, a full list of videos covering these topics is available from Barnes Products, Brisbane +61 7 3284 1111, Sydney +61 2 9793 7555, fax +61 2 9793 7091

How to Make a Monster- the Art and Technology of Animatronics, available through Barnes Products, Brisbane +61 7 3284 1111, Sydney +61 2 9793 7555 and host Museums.

Movie Magic, shown on pay TV

Extended releases of Visual Effects movies usually have extras that may include special 'making of' documentaries.

Also try visiting Special Effects sites on the internet, there is a lot of information available.

www.visualeffectssociety.com is a good site used by most professionals, it always has up to date industry news.

Your local library may also have some books on mould-making and casting in various materials. Many techniques in bronze casting are similar to those used in making molds of creatures.

©2005 JCCW