



**The 3rd Belt and Road Teenager
Maker Camp & Teacher Workshop**

THE ART OF PRINTING

**SEPTEMBER 24-30,2019
GUANGXI · CHINA**



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What is printing?

Printing is a process for reproducing text and images using a master form or template. The earliest non-paper products involving printing include cylinder seals and objects such as the Cyrus Cylinder and the Cylinders of Nabonidus. The earliest known form of printing as applied to paper was woodblock printing, which appeared in China before 220 AD. Later developments in printing technology include the movable type invented by Bi Sheng around 1040 AD and the printing press invented by Johannes Gutenberg in the 15th century. The technology of printing played a key role in the development of the Renaissance and the scientific revolution, and laid the material basis for the modern knowledge-based economy and the spread of learning to the masses.



Modern Printing Technology

Essentially, the problem solved by printing technology is how to produce paper printing on a large scale and quickly, which is the same as ancient technology. However, with the development of modern science and technology, especially in the process of rapid development of electronic technology, printing has entered the era of electronic control and automation. Electronic typesetting, electronic color separation and electronic engraving are widely used, and the quality and efficiency of printing have been greatly improved.

The application of computer continues to bring printing into the era of digital printing, making it possible for small varieties and diversified printing,



which are difficult to accomplish by traditional technology, to be realized smoothly.



活字印版

What are we going to learn in this course?

Printing art is an ancient art form. Characters and illustrations in ancient engraving books are the same engraving method. What we will learn and experience in the following courses are:

- Learn to use basic tools and materials
- How to modulate ink
- Experience Screen Printing and Relief Printing
- Book binding

At the end of the course, we should work together to create our own handmade book.



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Activity 1: A Brief History of Printing

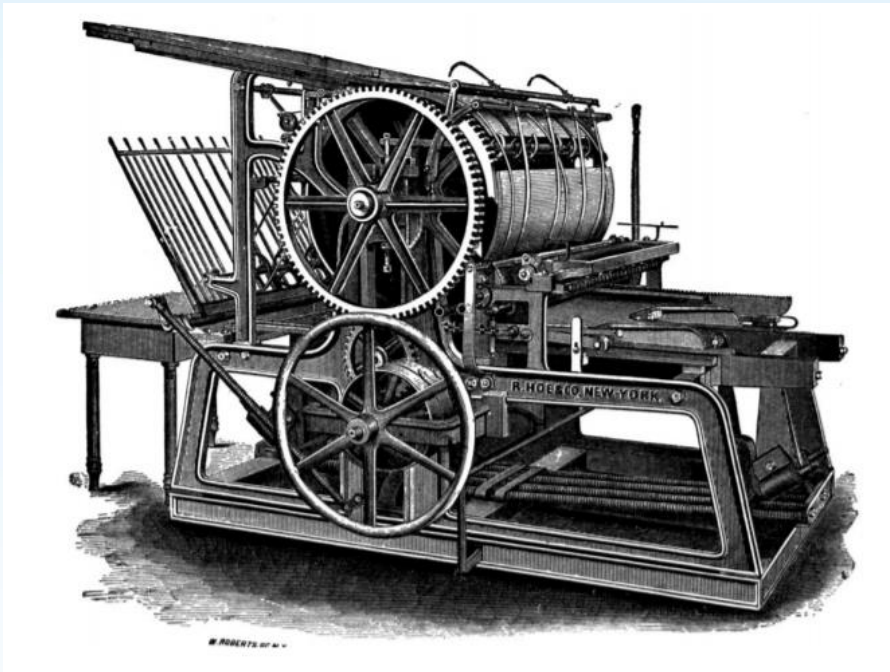
In the teacher's speech, we will study several main aspects:

- Brief history of Printing
- The basic knowledge of printmaking creation
- The change of art form of printmaking art
- The basic knowledge of book binding

You are welcome to ask questions during the course.

Discussion:

The carving of characters and patterns on mud, stone or wood can be traced back to prehistoric civilization, but why did block printing not appear until nearly two thousand years ago?





Activity 2: Experience Screen Printing

We will learn basic ink toner methods and general safe operation methods through screen printing.

Material:

- Screen printing inks, ink knife, cup, palette knife
- Ink pad, screen frame, scraper
- Scissor, paper, rag

Technological process:

1. Choose the inks and mix them into the cup until it becomes the color that you need.
2. Pour the prepared ink in the screen frame, scrape it on the paper.
3. Try to cut a pattern with scissor and place it on the paper to mask the screen frame.

Caution: Wear waterproof aprons and gloves to avoid contamination.





Activity 3: Experience Woodblock Printing

Material:

- Type head (English alphabet and figure), woodcut block, printing paper
- Watercolor, watering can, brush
- Apron, pencil, eraser

Technological process:

1. Combine the sentences or words that you like with type head. Affix them in the frame and print the patterning that you need.
2. Put the Chinese art paper on printing paper and use watering can to water the paper. The water should uniform distribution on the paper. Then use the plastic film to cover it.
3. Brush mixed watercolor to the type head or printed pattern. No hydrops and brush it uniform distribution.
4. Using the grinding apparatus to press the back of paper until the pattern appearing. Don't let paper move while you are pressing the paper.
5. Try to print the pattern that you want.





Activity 4: Experience Relief Printing

Material:

- Woodcut block, carving knife, copy paper, carbon paper, printing paper
- Ink, ink roller, wood mushroom, printmakers
- Aprons, pencils, eraser

Technological process:

1. Use pencil to draw your ideal pattern on the copy paper;
2. Copy the pattern to the woodcut block. (All the words or patterns must be mirrored.)
3. Carve your pattern with the carving knife, and the part that is cut will not be printed.
4. If you are the first to use the carving knife, one trick is to dig out the outline along the edge of the draft line, so as to avoid accidental carving.
5. Roll the ink evenly to the block with ink roller, and cover the printing paper on the block.
6. Press the printing paper with the wood mushroom or printing machine until the image is fully presented on the printing paper.

Safety Warning: Hands without carving knives must wear protective gloves to avoid injury!



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Activity 5: Book binding

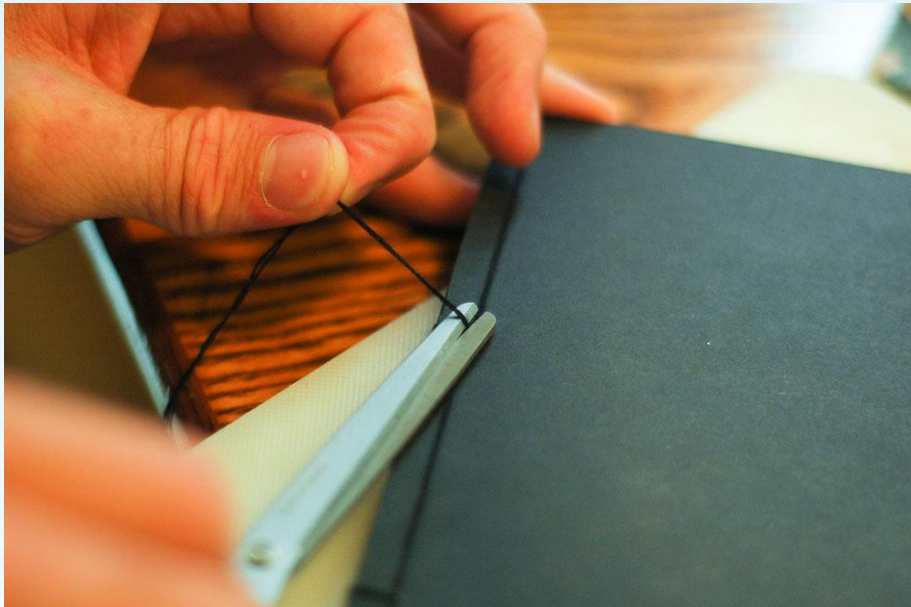
Material:

- Cardboard, cover paper, cotton thread, glue, needles
- Cutting paper plate, knife
- Apron, gloves

Technological process:

1. Consider a format for the book what you want to make
2. Use needles, thread, glue, paste and other tools to stitch pages together;

Think about this: What do you think the significance of printing technology to the development of human society?





STEM Project: Make a handmade book

Try to make a handmade book with your partners that can quickly print a highly consistent work and publish 5 copies of the same book.

Requirements:

1. Each piece of work is flat, clear image, clean and neat paper.
2. Each book is neatly bound and looks the same.
3. In the premise of ensuring artistic effect, but also low cost.
4. Book's binding forms and content unity is needed, and is full of artistic expression. It also can make people have an interest of reading.

Material:

- Colored paper, cover linen, paste, cardboard
- Art knife, scissors
- Apron, gloves

Think about this: How to ensure the bookbinding neatly?

Contents	Criteria
Technology of Printing	The paper is flat, the pattern can be clearly recognized and the paper is clean.
Book Binding	The binding must be orderly and firm enough. The appearance must be pretty. It has an effective cost control.
Creativity	The unity of book's binding forms and content is needed. It also can arouse the interest of reading.



‘Handmade Book’ Project Sheet

(Only one for each group)

Name	
Members	
Design sketch (Including the whole picture of the handmade book and the design of every frame)	



<p>Material list</p>	
<p>Division of work (List everyone's part. Choose one of the students of your group as the representatives to explain the ideas.)</p>	