

# TOOLING, CERTIFICATE OF ACHIEVEMENT

**Banner Code:** 1\_CT\_MTTL  
**Financial Aid Eligible**

Earning the Tooling certificate upgrades the skills of the machinist to the point required for profitable employment as an entry-level tool maker, a die maker, or a mold maker. As well as other subjects that must be learned by the beginning tool maker, the Tooling certificate program includes courses in metallurgy, tool and cutter grinding, and welding tooling.

## Program Outcome

Manufacture precision tooling for Dies, Molds, and Prototype tooling.

Review Graduation Requirements (<https://catalog.cccd.edu/orange-coast/graduation-requirements/certificates/#achievementtext>).

Course	Title	Units
<b>Required Courses</b>		
MACH A100	Introduction to Machine Shop	3
MACH A105	Lathe	5
MACH A110	Milling Machine	5
MACH A115	Production Machining Techniques	2
MACH A120	Measurement and Blueprint Reading	3
MACH A121	Computations for Machinists	3
MACH A125	CNC Machine Operation 1	3
MACH A130	Introduction to CNC and Manual Programming	3
MACH A175	Dimensioning and Tolerancing	3
MACH A190	Elementary Metallurgy	2
MACH A200	Tooling	2.5
WELD A100	Arc & Oxy-acetylene Welding	3
<b>Total Units</b>		<b>37.5</b>

## Program Sequence

These sequences at Orange Coast College are curriculum maps for students to finish all requirements for the certificate. There may be advisories, prerequisites, or time requirements that students need to consider before following these maps. **Students are advised to meet with an Orange Coast College Counselor for alternate sequencing.**

Course	Title	Units
<b>Year 1</b>		
<b>Semester 1</b>		
MACH A100	Introduction to Machine Shop	3
MACH A105	Lathe	5
MACH A120	Measurement and Blueprint Reading	3
MACH A121	Computations for Machinists	3
	<b>Units</b>	<b>14</b>
<b>Semester 2</b>		
MACH A110	Milling Machine	5

Course	Title	Units
MACH A130	Introduction to CNC and Manual Programming	3
	<b>Units</b>	<b>8</b>
<b>Summer</b>		
MACH A200	Tooling	2.5
	<b>Units</b>	<b>2.5</b>
<b>Year 2</b>		
<b>Semester 1</b>		
MACH A125	CNC Machine Operation 1	3
MACH A190	Elementary Metallurgy	2
MACH A115	Production Machining Techniques	2
	<b>Units</b>	<b>7</b>
<b>Semester 2</b>		
MACH A175	Dimensioning and Tolerancing	3
WELD A100	Arc & Oxy-acetylene Welding	3
	<b>Units</b>	<b>6</b>
	<b>Total Units</b>	<b>37.5</b>