

Specification of Competency Standards for the Watch & Clock Industry

Unit of Competency

1. Title	Master the Application of Rapid Prototyping of Timepiece
2. Code	WCZZDN304A
3. Level	3
4. Credit	9
5. Competency	<p align="center"><u>Performance Requirements</u></p> <p>5.1 Understand prototype processing techniques</p> <ul style="list-style-type: none"> ◆ Understand the following rapid prototyping application theories <ul style="list-style-type: none"> • Laser block print method • Optional laser coagulation • Solid ground curing • Chemical vapor deposition • Three-dimensional printing • Spherical particle modeling • Compound target modeling method <p>5.2 Master the conversion of various model working files into rapid prototyping files format</p> <ul style="list-style-type: none"> ◆ Master the conversion of computer-aided physical model files into rapid prototyping files ◆ Master the application of STL integrated image files <p>5.3 Understand the application of rapid tooling mould</p> <ul style="list-style-type: none"> ◆ Understand the application of silicon sulphide plastic moulds at room temperature ◆ Understand the application of spinning casting ◆ Understand the application of lost wax casting ◆ Understand the application of metal spraying ◆ Understand the production, casting and application of direct cases

	<p>5.4 Understand reverse engineering</p> <ul style="list-style-type: none"> ◆ Master three-dimensional scanning ◆ Master three-dimensional digital measurement and data collation <p>5.5 Employ the manufacturing technique of rapid prototyping</p> <ul style="list-style-type: none"> ◆ Capable of employing the manufacturing technique of rapid prototyping to make prototypes of timepieces, including that for Timepiece components
6. Range	<p>In the Design Department or Prototype Department of Timepiece companies, capable of employing the manufacturing technique of rapid prototyping to make prototypes of timepieces, including prototypes of Timepiece components such as dial, case and band, with the exception of watch movement.</p>
7. Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <p>(i) capable of employing the manufacturing technique of rapid prototyping to make prototypes of timepieces, including prototypes of Timepiece components such as dial, case and band.</p>
8. Remarks	<p>The credit value of this unit of competency is set on the presumption that the learners already have basic knowledge about computer-aided design/manufacturing of Timepiece components.</p>