CAD/CAMassessment paper

Name and surname: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Ʃ 100 points** |  |

Points:

|  |  |
| --- | --- |
| **Ʃ 20 points** |  |

**Learning outcome 1: Creating a 3D model of the machine part using CAD programme**

**Planning:**

1. Reading and comprehension of the provided drawings.

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| --- | --- |
| 5 points |  |

1. Planning and choosing the correct method for designing 3D models.

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| --- | --- |
| 3 points |  |

**Execution:**

1. Drawing a sketch according to the predefined dimensions (accuracy of the sketch dimensions).

|  |  |
| --- | --- |
| 3 points |  |

1. Designing 3D models (accuracy of the model geometry).

|  |  |
| --- | --- |
| 6 points |  |

1. Correctly defined materials.

|  |  |
| --- | --- |
| 1 point |  |

1. Correctly defined point of tool exchange.

|  |  |
| --- | --- |
| 1 point |  |

**Reporting:**

1. Presenting 3D model and correction of the model if needed.

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| --- | --- |
| 1 point |  |

**Learning outcome 2: Generating a NC code for the creation of the position on CNC machine**

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| --- | --- |
| **Ʃ 30 points** |  |

**Planning:**

1. Correctly defined order of operations and processing.

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| --- | --- |
| 2 points |  |

1. Correctly defined work regimes.

|  |  |
| --- | --- |
| 5 points |  |

1. Correctly defined processing tools.

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| --- | --- |
| 2 points |  |

**Execution:**

1. Correctly defined CAM program processing parameters for each operation.

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| --- | --- |
| 10 points |  |

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| --- | --- |
| 6 points |  |

1. Accuracy of the generated NC code.

**Reporting:**

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| --- | --- |
| 5 points |  |

1. Oral explanation of the choice of parameters for the chosen design technology.

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| **Ʃ 10 points** |  |

**Learning outcome 3: Simulating the processing and making corrections**

**Execution:**

1. Correct use of processing simulation tools with the selected CAM program.

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| 3 point |  |

1. Accuracy of the procedure of simulated processing.

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| --- | --- |
| 2 point |  |

1. Management of subsequent corrections.

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| 3 point |  |

**Reporting:**

1. Presentation of the processing simulation, analysis and spotting of mistakes.

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| --- | --- |
| 2 points |  |

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| **Ʃ 10 points** |  |

**Learning outcome 4: Generate technological documentation**

**Documentation:**

1. Correct use of tools for generating technological documentation in the selected CAM program.

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| 2 points |  |

1. Accuracy of the generated technical documentation.

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| 6 points |  |

**Reporting:**

1. Presentation of technical documentation.

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| --- | --- |
| 2 points |  |

|  |  |
| --- | --- |
| **Ʃ 30 points** |  |

**Learning outcome 5: Make a machine part on CNC five-axis mill**

**Planning:**

1. Planning of the machine procedure sequence.

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| 3 points |  |

1. Understanding the technical documentation of the machine.

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| --- | --- |
| 3 points |  |

**Execution:**

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| --- | --- |
| 3 points |  |

1. Correct use of measuring tools, devices and CNC machine accessories.

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| --- | --- |
| 3 points |  |

1. Accurate tool correction and work regime procedures.

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| --- | --- |
| 8 points |  |

1. Accurate dimensions of the built prototype.
2. Surface quality of the built prototype.

|  |  |
| --- | --- |
| 5 points |  |

**Reporting:**

1. Demonstration and presentation of the machine part and all phases of development.

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| --- | --- |
| 5 points |  |