

山东水利职业学院  
机械制造及自动化专业  
人才培养方案

2024

|      |        |
|------|--------|
| 教学系部 | _____  |
| 执笔人  | _____  |
| 审核人  | _____  |
| 制订日期 | 2021 8 |
| 修订日期 | 2024 8 |

○

|                     |    |
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# 机械制造及自动化专业人才培养方案

460104

## 一、专业名称和代码

460104

## 二、入学要求

## 三、修业年限

6

## 四、职业面向

|   |                      |
|---|----------------------|
| A | (46)                 |
| B | (4601)               |
| C | 34                   |
| D | (2-02)               |
| E |                      |
| F | 1+<br>1+ G<br>*<br>* |

\*

## 五、培养目标和培养规格

1.

1

1.1

1.2

2

2.1

2.2

3

3.1

1 2

3.2

2.

1

1.1

1.2

1.3

2

2.1

2.2

2.3

2.4

2.5

2.6

2.7

3

3.1

3.2

3.3

3.4

3.

1

1.1

1.2

2

2.1

2.2

2.3

## 六、职业岗位与职业能力分析

|   |  |                   |                    |
|---|--|-------------------|--------------------|
|   |  |                   |                    |
| 1 |  | A-1<br>A-2<br>A-3 | 1-1<br>1-2<br>1-3  |
| 2 |  | B-1<br>B-2        | 2-1.<br>2-2<br>2-3 |
| 3 |  | C-1               | 3-1<br>3-2         |
| 4 |  | D-1<br>D-2        | 4-1<br>4-2<br>4-2  |
| 5 |  | E-1<br>E-2<br>E-3 | 5-1<br>5-2<br>5-3  |
| 6 |  | F-1<br>F-2<br>F-3 | 6-1<br>6-2<br>6-3  |

## 七、职业能力与学习领域设计

|             |         |      |  |
|-------------|---------|------|--|
|             |         |      |  |
| 1-1 3-1 4-1 | CAD     |      |  |
| 3-1 5-1     |         |      |  |
| 1-2 2-3 4-2 |         | I II |  |
| 1-2 3-1 4-1 |         |      |  |
| 1-1 1-2 4-1 |         |      |  |
| 2-1 3-1 5-1 | PLC     | PLC  |  |
| 1-1 2-3 5-1 |         |      |  |
| 1-1 3-1 5-3 |         |      |  |
| 1-1 1-3 4-2 | CAD/CAM |      |  |
| 1-3 2-2 2-3 |         |      |  |
| 1-1 2-2 2-3 |         |      |  |

|     |     |     |        |  |  |
|-----|-----|-----|--------|--|--|
| 1-3 | 2-1 | 4-2 | CAD/CA |  |  |
| 1-3 | 2-1 | 4-3 |        |  |  |
| 4-1 | 5-1 | 5-3 |        |  |  |
| 1-1 | 3-1 | 5-2 |        |  |  |

## 八、课程体系及人才培养模式

1.

|  |              |
|--|--------------|
|  |              |
|  |              |
|  |              |
|  |              |
|  | CAD<br>C     |
|  | CAD/CA       |
|  | CA A<br>/E C |

|  |  |
|--|--|
|  |  |
|  |  |

2.

6-8

| 1   |   |  |    |  |    |  |    |
|-----|---|--|----|--|----|--|----|
|     | 3 |  | 75 |  | 35 |  | 40 |
| 1.  |   |  |    |  |    |  |    |
| 2.  |   |  |    |  |    |  |    |
| 3.  |   |  |    |  |    |  |    |
| 1.  |   |  |    |  |    |  |    |
| 2.  |   |  |    |  |    |  |    |
| 3.  |   |  |    |  |    |  |    |
| 4.  |   |  |    |  |    |  |    |
| 1.  |   |  |    |  |    |  |    |
| 2.  |   |  |    |  |    |  |    |
| 3.  |   |  |    |  |    |  |    |
| 4.  |   |  |    |  |    |  |    |
| 2-3 |   |  |    |  |    |  |    |
|     |   |  |    |  |    |  |    |

| 2  | CAD/CA |  |    |  |    |  |    |
|----|--------|--|----|--|----|--|----|
|    | 5      |  | 40 |  | 20 |  | 20 |
| 1. |        |  |    |  |    |  |    |

|                                  |
|----------------------------------|
| 2.                               |
| 3.                               |
| 1.<br>2.<br>3.<br>4.<br>5.<br>6. |
| 1.<br>2. CAD/CA<br>3.<br>4.      |
| 2-3                              |
|                                  |

|                |     |    |    |  |     |  |    |
|----------------|-----|----|----|--|-----|--|----|
| 3              |     |    |    |  |     |  |    |
|                | 3.5 |    | 60 |  | 40  |  | 20 |
| 1.             |     |    |    |  |     |  |    |
| 2.             |     | 3D |    |  |     |  |    |
| 3.             |     |    |    |  |     |  |    |
| 1.<br>2.<br>3. |     |    |    |  | CAD |  |    |

|                      |
|----------------------|
| 1.<br>2.<br>3.<br>4. |
| 2-3                  |
|                      |

|     |   |  |    |  |    |    |
|-----|---|--|----|--|----|----|
| 4   |   |  |    |  |    |    |
|     | 4 |  | 75 |  | 35 | 40 |
| 1.  |   |  |    |  |    |    |
| 2.  | G |  |    |  |    |    |
| 3.  |   |  |    |  |    |    |
| 1.  |   |  |    |  |    |    |
| 2.  |   |  |    |  |    |    |
| 3.  |   |  |    |  |    |    |
| 4.  |   |  |    |  |    |    |
| 5.  |   |  |    |  |    |    |
| 1.  |   |  |    |  |    |    |
| 2.  |   |  |    |  |    |    |
| 3.  |   |  |    |  |    |    |
| 4.  |   |  |    |  |    |    |
| 2-3 |   |  |    |  |    |    |
| 1.  |   |  |    |  |    |    |



|                              |
|------------------------------|
| 1.<br>2.<br>3. E<br>4.<br>5. |
| 1.<br>2.<br><br>3.<br>4.     |
| 2-3                          |
|                              |

|                      |   |  |    |  |    |    |
|----------------------|---|--|----|--|----|----|
| 7                    |   |  |    |  |    |    |
|                      | 5 |  | 40 |  | 20 | 20 |
| 1.<br>2.<br>3.       |   |  |    |  |    |    |
| 1<br>2<br><br>3<br>4 |   |  |    |  |    |    |

1

2.

3.

4.

2-3

|   |         |                |  |    |
|---|---------|----------------|--|----|
|   |         |                |  | 16 |
| 1 |         | 1.<br>2.       |  | 4  |
| 2 |         | 1.<br>2.       |  | 4  |
| 3 |         | 1.<br>2.       |  | 2  |
| 4 |         | 1.<br>2.<br>3. |  | 4  |
| 5 | I<br>II |                |  | 2  |
|   |         |                |  | 16 |

# 02

# 0

## 教学进程总体安排

|       |   |    |     |    |    |   |   |   |   |   |
|-------|---|----|-----|----|----|---|---|---|---|---|
|       |   |    |     |    |    |   |   |   |   |   |
|       |   |    |     |    | -5 |   |   |   |   |   |
|       | 1 | 5  | 19  | 13 | 1  | 1 | 1 | 1 | 2 |   |
|       | 2 | 7  | 20  | 14 | 4  | 1 | 1 |   |   |   |
| GB550 | 3 | 5  | 20  | 15 | 3  | 1 | 1 |   |   |   |
| GB550 | 4 | 7  | 20  | 15 | 3  | 1 | 1 |   |   |   |
|       | 5 | 5  | 20  | 5  | 13 | 1 | 1 |   |   |   |
|       | 6 |    | 17  |    | 16 | 1 | 0 |   |   | 1 |
|       |   | 29 | 117 | 77 | 24 | 6 | 5 | 1 | 2 | 1 |

/ /

|            |   | 1   | 2  | 3  | 4  | 5    | 6 |
|------------|---|-----|----|----|----|------|---|
|            |   | 13  | 14 | 15 | 15 | 5    | 0 |
| GB2200B001 | + | 3   | 48 | 32 | 16 | 3/11 |   |
| GB2200B002 | + | 1   | 16 | 10 | 6  | 1    |   |
| GB2200B003 | + | 1   | 16 | 10 | 6  | 1    |   |
| GB2200B004 | + | 3   | 48 | 32 | 16 | 2    |   |
| GB2200B005 | + | 022 | 8  | 8  |    |      |   |

# 05

|             |   |   |     |    |    |    |   |   |   |   |   |  |
|-------------|---|---|-----|----|----|----|---|---|---|---|---|--|
| GB2200B005  | V | + | 0.2 | 8  | 8  | 0  |   |   |   |   | 8 |  |
| GB1900B010  |   | + | 2   | 26 | 0  | 26 | 2 |   |   |   |   |  |
| GB1900B011  |   | + | 2   | 28 | 0  | 28 |   | 2 |   |   |   |  |
| GB1900B012  |   | + | 1   | 15 | 0  | 15 |   |   | 1 |   |   |  |
| GB1900B013  |   | + | 1   | 15 | 0  | 15 |   |   |   | 1 |   |  |
| GB1900B014  |   | + | 2   | 36 | 18 | 18 |   | 2 |   |   |   |  |
| GB1900B015  |   |   | 2   | 36 | 16 | 20 | 1 |   |   |   |   |  |
| GB1900B016  |   | + | 1   | 12 | 8  | 4  | 1 |   |   |   |   |  |
| GB1900B017  |   | + | 1   | 15 | 8  | 7  |   |   |   | 1 |   |  |
| GB1900B018  |   | + | 2   | 28 | 14 | 14 |   | 2 |   |   |   |  |
| GB1900B019  |   | + | 1   | 15 | 8  | 7  |   |   | 1 |   |   |  |
| GB1900B020  |   |   | 0.5 | 8  | 8  | 0  |   |   | 8 |   |   |  |
| GB1900B021  |   |   | 0.5 | 8  | 8  | 0  |   |   |   | 8 |   |  |
| GD1901A022  |   |   | 3   | 52 | 48 | 4  | 4 |   |   |   |   |  |
| GD1901A023  |   |   | 2   | 28 | 24 | 4  |   | 2 |   |   |   |  |
| GD1900A024  |   |   | 3   | 52 | 48 | 4  | 4 |   |   |   |   |  |
| GD1900A025  |   |   | 3   | 42 | 38 | 4  |   | 3 |   |   |   |  |
| GD1900A026  |   |   | 2   | 39 | 35 | 4  | 3 |   |   |   |   |  |
| GD1900A0725 |   |   | 1   | 15 | 13 | 2  |   | 1 |   |   |   |  |
| GD1400B028  |   | + | 2   | 26 | 0  | 26 | 2 |   |   |   |   |  |
| GD1400B029  |   | + | 0.5 | 8  | 8  | 0  | 8 |   |   |   |   |  |
| GD1400B030  |   | + | 0.5 | 8  | 8  | 0  |   | 8 |   |   |   |  |
| GD1400B031  |   | + | 0.5 | 8  | 8  | 0  |   |   | 8 |   |   |  |
| GD1400B032  |   | + | 0.5 | 8  | 8  | 0  |   |   |   | 8 |   |  |

|            |  |   |   |    |    |   |   |   |  |   |  |  |
|------------|--|---|---|----|----|---|---|---|--|---|--|--|
| GD1900A033 |  |   | 1 | 14 | 7  | 7 |   | 1 |  |   |  |  |
| GD1900A034 |  |   | 1 | 15 | 10 | 5 | 1 |   |  |   |  |  |
| GD2241A035 |  |   | 1 | 18 | 10 | 8 |   |   |  | 1 |  |  |
| GD2242A035 |  |   | 1 | 18 | 10 | 8 |   |   |  | 1 |  |  |
| GD2243A035 |  |   | 1 | 18 | 10 | 8 |   |   |  | 1 |  |  |
| GD2244A035 |  |   | 1 | 18 | 10 | 8 |   |   |  | 1 |  |  |
| GD1981B036 |  |   | 1 | 18 | 10 | 8 | 1 | 1 |  |   |  |  |
| GD1982B036 |  |   | 1 | 18 | 10 | 8 | 1 | 1 |  |   |  |  |
| GD1983B036 |  |   | 1 | 18 | 10 | 8 | 1 | 1 |  |   |  |  |
| GD1984B036 |  |   | 1 | 18 | 10 | 8 | 1 | 1 |  |   |  |  |
| GD1985B036 |  |   | 1 | 18 | 10 | 8 | 1 | 1 |  |   |  |  |
| GD1986B036 |  |   | 1 | 18 | 10 | 8 | 1 | 1 |  |   |  |  |
| GD1987B036 |  |   | 1 | 18 | 10 | 8 | 1 | 1 |  |   |  |  |
| GD1988B036 |  |   | 1 | 18 | 10 | 8 | 1 | 1 |  |   |  |  |
| G 0499B020 |  | + | 1 | 18 | 14 | 4 | 2 | 2 |  |   |  |  |
| G 1199B001 |  | + | 1 | 18 | 14 | 4 | 2 | 2 |  |   |  |  |
| G 1199B002 |  | + | 1 | 18 | 14 | 4 | 2 | 2 |  |   |  |  |
| G 1399B004 |  | + | 1 | 18 | 14 | 4 | 2 | 2 |  |   |  |  |
| G 1499B005 |  | + | 1 | 18 | 14 | 4 | 2 | 2 |  |   |  |  |
| G 1499B006 |  | + | 1 | 18 | 14 | 4 | 2 | 2 |  |   |  |  |
| G 1499B007 |  | + | 1 | 18 | 14 | 4 | 2 | 2 |  |   |  |  |
| G 1599B008 |  | + | 1 | 18 | 14 | 4 | 2 | 2 |  |   |  |  |
| G 1599B009 |  | + | 1 | 18 | 14 | 4 | 2 | 2 |  |   |  |  |

|  |            |        |   |     |     |     |     |    |    |   |   |   |   |
|--|------------|--------|---|-----|-----|-----|-----|----|----|---|---|---|---|
|  | G 1699B010 |        | + | 1   | 18  | 14  | 4   | 2  | 2  |   |   |   |   |
|  | G 1699B011 |        | + | 1   | 18  | 14  | 4   | 2  | 2  |   |   |   |   |
|  | G 1899B003 |        | + | 1   | 18  | 14  | 4   | 2  | 2  |   |   |   |   |
|  | G 1999B012 |        | + | 1   | 18  | 14  | 4   | 2  | 2  |   |   |   |   |
|  | G 1999B013 |        | + | 1   | 18  | 14  | 4   | 2  | 2  |   |   |   |   |
|  | G 1999B014 |        | + | 1   | 18  | 14  | 4   | 2  | 2  |   |   |   |   |
|  | G 1999B015 |        | + | 1   | 18  | 14  | 4   | 2  | 2  |   |   |   |   |
|  | G 1999B016 |        | + | 1   | 18  | 14  | 4   | 2  | 2  |   |   |   |   |
|  | G 1999B017 |        | + | 1   | 18  | 14  | 4   | 2  | 2  |   |   |   |   |
|  | G 1999B018 |        | + | 1   | 18  | 14  | 4   | 2  | 2  |   |   |   |   |
|  | G 2199B019 |        | + | 1   | 18  | 14  | 4   | 2  | 2  |   |   |   |   |
|  |            |        |   | 49  | 797 | 505 | 292 | 23 | 18 | 2 | 3 | 0 | 0 |
|  | 1318B001   | CAD    | + | 4   | 78  | 40  | 38  | 6  |    |   |   |   |   |
|  | 1318B002   |        | + | 3.5 | 60  | 30  | 30  |    | 4  |   |   |   |   |
|  | 1318B003   |        | + | 4   | 70  | 50  | 20  |    | 5  |   |   |   |   |
|  | 1318B004   |        | + | 4   | 75  | 45  | 30  |    |    | 5 |   |   |   |
|  | 1318B005   | CAD/CA | + | 4   | 75  | 35  | 40  |    |    | 5 |   |   |   |
|  | 1318B006   |        | + | 3.5 | 60  | 40  | 20  |    |    | 4 |   |   |   |
|  | 1318B007   | C      | + | 3.5 | 60  | 30  | 30  |    |    |   | 4 |   |   |
|  | 1318B008   |        | + | 3.5 | 60  | 40  | 20  |    |    |   | 4 |   |   |
|  | 1318B009   |        | + | 4   | 75  | 35  | 40  |    |    | 5 |   |   |   |
|  | 1318B010   |        | + | 3.5 | 60  | 40  | 20  |    |    |   | 4 |   |   |
|  | 1318B011   |        | + | 4   | 75  | 30  | 45  |    |    |   | 5 |   |   |
|  | 1318B012   |        | + | 3.5 | 60  | 40  | 20  |    |    |   | 4 |   |   |

|  |          |        |   |    |      |     |     |   |    |    |    |    |   |
|--|----------|--------|---|----|------|-----|-----|---|----|----|----|----|---|
|  | 1318B013 | CAD/CA | + | 2  | 40   | 20  | 20  |   |    |    |    | 8  |   |
|  | 1318B014 |        | + | 2  | 40   | 30  | 10  |   |    |    |    | 8  |   |
|  | 1318B015 |        | + | 2  | 40   | 30  | 10  |   |    |    |    | 8  |   |
|  | 1300B001 |        | + | 1  | 18   | 10  | 8   |   |    | 2  |    |    |   |
|  | 1300B004 |        | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  | 1300B005 | CA A   | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  | 1300B007 |        | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  | 1300B008 |        | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  | 1300B009 | C      | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  | 1300B011 |        | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  | 1300B012 |        | + | 1  | 18   | 10  | 8   |   |    | 2  |    |    |   |
|  | 1300B013 |        | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  | 1300B014 |        | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  | 1300B015 |        | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  | 1300B016 |        | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  | 1300B017 |        | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  | 1300B018 |        | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  | 1300B019 |        | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  | 1300B021 |        | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  | 1300B026 | /E     | + | 1  | 18   | 10  | 8   |   |    |    | 2  |    |   |
|  | 1300B028 |        | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  | 1300B030 |        | + | 1  | 18   | 10  | 8   |   |    |    |    |    |   |
|  |          |        |   | 57 | 1048 | 607 | 441 | 5 | 10 | 19 | 22 | 24 | 0 |

|          |  |  |     |      |      |      |    |    |    |    |    |    |
|----------|--|--|-----|------|------|------|----|----|----|----|----|----|
| 0500C037 |  |  | 2   | 48   | 0    | 48   | 2  |    |    |    |    |    |
| 0500C038 |  |  | 1   | 24   | 0    | 24   | 1  |    |    |    |    |    |
| 1318C016 |  |  | 1   | 24   | 0    | 24   | 1  |    |    |    |    |    |
| 1318C017 |  |  | 1   | 24   | 0    | 24   |    | 1  |    |    |    |    |
| 1318C018 |  |  | 2   | 48   | 0    | 48   |    | 2  |    |    |    |    |
| 1318C019 |  |  | 1   | 24   | 0    | 24   |    | 1  |    |    |    |    |
| 1318C020 |  |  | 1   | 24   | 0    | 24   |    |    | 1  |    |    |    |
| 1318C021 |  |  | 2   | 48   | 0    | 48   |    |    | 2  |    |    |    |
| 1318C022 |  |  | 1   | 24   | 0    | 24   |    |    |    | 1  |    |    |
| 1318C023 |  |  | 2   | 48   | 0    | 48   |    |    |    | 2  |    |    |
| 1318C024 |  |  | 1   | 24   | 0    | 24   |    |    |    |    | 1  |    |
| 1318C025 |  |  | 1   | 24   | 0    | 24   |    |    |    |    | 1  |    |
| 1300C039 |  |  | 3   | 72   | 0    | 72   |    |    |    |    | 3  |    |
| 1300C040 |  |  | 1   | 24   | 0    | 24   |    |    |    |    |    | 1  |
| 1300C041 |  |  | 8   | 192  | 0    | 192  |    |    |    |    | 8  |    |
| 1300C042 |  |  | 16  | 384  | 0    | 384  |    |    |    |    |    | 16 |
|          |  |  | 44  | 1056 | 0    | 1056 | 5  | 4  | 3  | 3  | 13 | 17 |
|          |  |  | 150 | 2889 | 1148 | 1741 | 28 | 28 | 21 | 25 | 26 | 0  |
|          |  |  | 5   | 120  |      |      |    |    |    |    |    |    |

|  |  |    |     |        |     |     |        |
|--|--|----|-----|--------|-----|-----|--------|
|  |  |    |     |        |     |     |        |
|  |  | 21 | 410 | 14.13% | 234 | 176 | 42.93% |

|    |      |        |     |     |        |
|----|------|--------|-----|-----|--------|
| 22 | 351  | 12.09% | 287 | 64  | 18.23% |
| 2  | 36   | 1.24%  | 28  | 8   | 22.22% |
| 49 | 797  | 27.47% | 505 | 292 | 36.64% |
| 30 | 538  | 18.55% | 310 | 228 | 42.38% |
| 21 | 390  | 13.44% | 225 | 165 | 42.31% |
| 6  | 108  | 4.14%  | 72  | 48  | 40%    |
| 57 | 1048 | 36.15  |     |     |        |

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| 2 |  | 2 | 1 | 1.<br>2.<br>3.<br>4.<br>5.<br>6.<br><br>1.<br><br>2.<br><br>3.                    |
| 3 |  | 2 | 2 | 1.<br>2.<br>3.<br>4.<br>5.<br>6.<br>7.<br>8.<br><br>1. CAD/CA<br><br>2.<br><br>3. |
| 4 |  | 2 | 1 | 1.<br><br>2.<br><br>3.<br><br>4.<br><br>5.<br><br>6.<br><br>7.                    |

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|   |  |   |   | <ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol>   |
| 5 |  | 3 | 1 | <ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> <li>4.</li> <li>5.</li> </ol><br><ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol> |
| 6 |  | 3 | 2 | <ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> <li>4.</li> <li>5.</li> </ol><br><ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol> |
| 7 |  | 4 | 1 | <ol style="list-style-type: none"> <li>1.</li> <li>2.</li> </ol>   |

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|    |  |   |   | <ul style="list-style-type: none"> <li>3. CAD</li> <li>4. CA</li> <li>5. CAD</li> <br/> <li>1. CAD/CA</li> <br/> <li>2.</li> <li>3.</li> </ul> |
| 8  |  | 4 | 2 | <ul style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> <li>4.</li> <br/> <li>1.</li> <li>2.</li> <li>3.</li> </ul>             |
| 9  |  | 5 | 1 | <ul style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> <li>4.</li> <br/> <li>1. 9401</li> <li>2.</li> </ul>                    |
| 10 |  | 5 | 1 | <ul style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> <li>4.</li> <li>5.</li> <br/> <li>1. CAD/CA</li> <li>2.</li> </ul>      |
| 11 |  | 5 | 3 | <ul style="list-style-type: none"> <li>1.</li> </ul>   |

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## 十、职业证书

|   |    |  |  |               |     |
|---|----|--|--|---------------|-----|
|   |    |  |  |               |     |
| 1 | *  |  |  | CAD           | 1-5 |
| 2 | *  |  |  |               | 2-5 |
| 3 | *  |  |  |               | 1-5 |
| 4 | *  |  |  | CAD           | 2-5 |
| 5 | 1+ |  |  | CAD<br>CAD/CA | 3-5 |
| 6 | 1+ |  |  | CAD<br>CAD/CA | 3-5 |

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## 十一、实施保障



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| 1 | CAD/CA | 60   | 12 CA A                     | 60                  | 200    |
| 2 |        |  | 20                          | 60                  | 200    |
| 3 |        |  | 12                          |                     |        |
| 4 |        |  | 13                          | 50                  | 150    |
| 5 |        | 2  | 6 1 2                       | 30                  | 100    |
| 6 |        |  | 3 2<br>1 30                 | 60                  | 200    |
| 7 |        | CA6140A 4<br>2 3050<br>B6065 B6063 2<br>1 15 | CDE6140 2<br>1 5025<br>50 2 | 6132 6125<br>1<br>1 | 40 500 |
| 8 |        | 8  | 8 2 2                       | 50                  | 150    |
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| 9  |   | 20 60                                       | 60 | 200  |            |
| 10 |   | CA A 60 CA A                                | 60 | 200  |            |
| 11 |   | 4 10 G 980<br>2<br>2 E E 802C<br>2 E E 802C | 60 | 1000 |            |
| 12 | C | C 20 1                                      | 40 | 200  | C<br><br>C |
| 13 |   | 12 4 4 1                                    | 30 | 150  |            |
| 14 |   | 20 16 60<br>20 20                           | 60 | 150  | CAD        |

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## 十二、毕业要求

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## 十三、研制团队

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#### 十四、继续专业学习深造建议

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