

# MECHANICAL DESIGN AND MANUFACTURING UNDERGRADUATE ACADEMIC CERTIFICATE

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This certificate is designed to provide undergraduate students with specialized knowledge and skills in product development and manufacturing engineering, which is a rapidly growing and evolving industry. The program is intended to prepare students for careers in this or related fields, as well as future graduate studies in this field.

All required coursework must be completed with a grade of C or better (O-10-a (<https://catalog.uidaho.edu/general-requirements-academic-procedures/o-miscellaneous/>)).

| Code                                  | Title   | Hours     |
|---------------------------------------|---|-----------|
| Select 12 credits from the following: |   | 12        |
| ME 4021                               | Machine Shop Fundamentals I                           |           |
| ME 4022                               | Machine Shop Fundamentals II                          |           |
| ME 4023                               | Machine Shop Leadership and Mentoring                 |           |
| ME 4100                               | Principles of Lean Manufacturing                      |           |
| ME 4150                               | Materials Selection and Design                        |           |
| ME 4540                               | Assistive Technologies for Physical Impairment        |           |
| ME 4580                               | Finite Element Applications in Engineering            |           |
| ME 4660                               | Compliant Mechanism Design                            |           |
| ME 4900                               | Solid Modeling, Simulation and Manufacturing Capstone |           |
| ME 4950                               | Mechanics in Design and Manufacturing                 |           |
| <b>Total Hours</b>                    |   | <b>12</b> |

## Courses to total 12 credits for this certificate

1 - Ability to use engineering skills for mechanical design and/or manufacturing or related fields based on knowledge and skills gained from the certificate.

2 - Ability to design manufacturable products or components while understanding and using modern manufacturing principles considering real-world constraints.

3 - Ability to effectively communicate with clients, engineers, or the general public on topics related to product design and development and modern manufacturing and/or related fields.