

**Form 2**

**MSc Mechanical Engineering**

**Track: Energy, Flow and Process Technology (ME-EFPT)**

**2022-23**

**Instructions:** Consult the EFPT curriculum (studiegids.tudelft.nl > Program tab) while completing this form. Fill out the form in Word. Export the Word document to PDF and sign it digitally in a PDF viewer. Email the PDF to EFPT-3mE@tudelft.nl. *Only PDF’s will be accepted*. Keep a copy for your own records.

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| --- | --- | --- | --- | --- | --- |
| Family name: |  | | | | |
| Given name(s): |  | | | | |
| Student number: |  | | E-mail: |  | |
| Submission date: |  | | | | |
|  | |  | | |

**FIRST YEAR COURSES**

## ME CORE COURSES – Select at least five in total, including the three obligatory Core courses.

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| --- | --- | --- |
| **Course code** | **Course name** | **EC** |

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| *Obligatory Core courses for EFPT* | | |
| ME45001 | Advanced Heat Transfer | 4 |
| ME45042 | Advanced Fluid Dynamics | 5 |
| ME46007 | Measurement Technology | 3 |
|  | subtotal | 12 |

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| *Additional Core courses* **–**Select at least two. | | |
| ME41055 | Multibody Dynamics B | 4 |
| ME41106 | Intelligent Vehicles 3ME | 5 |
| ME44210 | Drive & Energy Systems | 3 |
| ME46000 | Nonlinear Mechanics | 4 |
| ME46006 | Physics for Mechanical Engineers | 4 |
| ME46055 | Engineering Dynamics | 4 |
| ME46085 | Mechatronic System Design | 4 |
| SC42001 | Control System Design | 5 |
|  | subtotal |  |

## ME NON-TECHNICAL COURSES – Select at least one course and not more than 6 EC.

*Pre-approved choices:* RO47009, TBM022A, TPM013A, TPM015B, TPM024A, TPM404B, TPM416A, TPM420A, WM0320TU, WM0329TU, WM0349WB, WM0353TU, WM0375TU, WM0801TU, WM1301TU, WM1302TU, WM1401TU, WM1402TU.

Other choices are possible with approval of the Track Coordinator and the Board of Examiners.

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|  | subtotal |  |

## ME-EFPT OBLIGATORY COURSES – These are obligatory courses that do not appear in the ME Core list.

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| ME45160 | Advanced Applied Thermodynamics | 5 |
| ME45165 | Equipment for Heat & Mass Transfer | 5 |
| subtotal | | 10 |

**ME-EFPT TRACK COURSES –** Select at least two courses.

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| ME45030 | Turbulence | 5 |
| ME45135 | Process Plant Design | 5 |
| ME45155 | Modeling of Thermodynamic and Hydrodynamic Systems | 5 |
| ME45230 | Separation techniques for renewable processes | 5 |
| subtotal | |  |

|  |  |
| --- | --- |
| Running total (page one) |  |

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**ME-EFPT ELECTIVES** – Pre-approved electives are suggestions with high relevance to EFPT. Other technical, MSc-level courses are also possible, subject to approval by the Track Coordinator (indicated by signing this form).

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| **Course code** | **Course name** | **EC** |

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| *Pre-approved electives* | | |
| ME45025 | Introduction to Multiphase Flow | 5 |
| ME45070 | Advanced Reaction & Separation Systems | 5 |
| ME45075 | Refrigeration & Heat Pumps Fundamentals | 4 |
| ME45111 | Buildings as Energy and Indoor Climate Systems | 5 |
| ME45170 | Turbomachinery | 4 |
| ME45190 | Chaos in Dynamical Systems | 3 |
| ME45201 | Electrochemical Energy Storage 1: Fundamentals | 3 |
| ME45203 | Electrochemical Energy Storage 2: Analytical Modeling | 4 |
| ME45211 | Introduction to Molecular Simulation | 5 |
| ME45215 | Rheology of Complex Fluids | 3 |
| ME45220 | Experimental Techniques in Fluid Mechanics | 3 |
| ME45225 | Multiphysics Transport in Energy Materials | 3 |
| AE4117 | Fluid-Structure Interaction | 4 |
| AE4140 | Gas Dynamics | 3 |
| CH3061 | Multiphase Reactor Engineering | 4 |
| CH3672 | Computational Materials Science | 3 |
| MT44100 | Internal Combustion Engines A | 5 |
| SET3070 | Thermochemistry of Biomass Conversion | 4 |
| WI4014TU | Numerical Analysis | 6 |
| WI4019-SP | Non-linear Differential Equations | 6 |
| *Additional elective(s)* | | |
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| subtotal | |  |

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| Sum of all First Year courses (must be at least 60 EC) |  |

## SECOND YEAR COURSES

## ME-EFPT SECOND YEAR PROJECT – Select one.

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| ME55015 | ME-EFPT Research Assignment | 15 |
| TUD4040 | Joint Interdisciplinary Project | 15 |
| subtotal | | 15 |

## ME-EFPT GRADUATION PROJECT

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| ME55010-20 | Literature Survey ME-EFPT | 10 |
| ME55035 | Thesis ME-EFPT | 35 |
| subtotal | | 45 |

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| Sum of all courses (must be at least 120 EC) | |  |
|  | Date: |  |

Signatures:

Track Coordinator: Student: Board of Examiners:

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Brian Tighe

last updated 20/9/2022