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| 1. | Title of Programme(s): (incl. Award Type and Specify Embedded Exit Awards) | Certificate in Heat Pump Installation, Commissioning, Maintenance and Servicing (Special Purpose Award, 20 ECTS) |
| 2. | NFQ Level(s)/ No. ECTS: | 6 20 ECTS |
| 3. | Duration: | One semester |
| 4. | ISCED Code: | 0710 |
| 5. | School / Centre: | School of Engineering |
| 6. | Department: | Mechanical and Industrial Engineering |
| 7. | Type of Review: | New Programme |
| 8. | Date of Review: | 24 th March 2022 |
| 9. | Delivery Mode: | Blended |
| 10. | Panel Members: | Mr Damien Courtney, Fellow Emeritus CIT (Chair) Ms Frances Robertson, Senior Lecturer – Architectural Technology, Sheffield Hallam University Dr Benjamin Mallon, Assistant Professor in Geography & Citizenship Education, Dublin City University Mr Dylan Farrell, Experience Design Engineer, Thermo King Mr Willie Madden, Director for Western Region, RPS Europe Ms Carmel Brennan, Head of Academic Quality, GMIT |
| 11. | Proposing Staff: | Prof Graham Heaslip Dr Oliver Mulryan Dr John Lohan Dr Laurentiu Dimache Dr Christoph Schellenberg Mr David Hunt Mr Peter Lynskey, Unitherm Mr Shane Kelly, Unitherm |
| 12. | Programme Rationale: | The requirement to achieve net-zero emissions by 2050 is an overarching policy driver of increased demand for skills in the retrofitting sector. Ambitious targets for residential |

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| | | <p>retrofits to be completed by 2030 have been set out in the government's Climate Action Plan in 2019. In this plan, there are targets to retrofit 400,000 homes to a BER level of B2 or cost optimal or carbon equivalent and to install 600,000 heat pumps, 400,000 of which will be in existing buildings.</p> <p>Achieving these goals will require a step change in the number of heat pumps adopted annually. To put these heat pump targets into perspective between 50-60,000 heat pumps will have to be installed and maintained annually between 2024 and 2030 with each installation taking several days to complete. According to SEAI BER database, between 2018 and 2020 inclusive, only 26,900 heat pumps were completed.</p> <p>This is going to give rise to the need to deliver niche training to plumbers, refrigeration engineers and engineering technicians who are in urgent need of upskilling. Currently there is a considerable shortfall in the labour supply for suitably trained heat pump installers.</p> <p>GMIT worked closely with Unitherm in the development of this programme and will use their facilities for the delivery of some practical elements of the programme.</p> |
| 13. | Proposed Student Intake: | 20 |
| 14. | Stakeholder Engagement: | The need for the programme and its development was informed through consultation with a range of stakeholders. A questionnaire was sent to contractors, engineers, heat merchants and building suppliers in the region, with 30 responses received. |
| 15. | Graduate Demand/Employment: | There is a lack of skilled workers in this discipline and demand is growing in line with government policy. |
| 16. | Entry Requirements, Access, Transfer & Progression: | <p>Applicants must hold L6 Advanced Craft Certificates as a plumber or refrigeration engineer or alternatively have a minimum of a Higher Certificate in Mechanical Engineering, or equivalent, in a cognate discipline and have basic electrical and plumbing skills. In addition, all learners must have basic ICT skills.</p> <p>In accordance with GMIT's policy, RPL can be used to gain admission to this programme.</p> |

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| 17. | Programme Structure: | This programme consists of two 10 ECTS modules which it is planned to deliver in two sequential blocks within one semester. |
| 18. | Learning, Teaching & Assessment Strategies: | This programme will be delivered in a blended manner with students onsite once per week and also undertaking online study. Most of the onsite work will take place in GMIT's energy laboratory, with additional classes taking place in the industry partner's dedicated heat pump training facility. Students not in appropriate employment will be able to undertake their practical work in this facility. |
| 19. | Resource Implications: | <p>9 additional hours for one semester.</p> <p>On hour per week technical support to prepare the manufacturing laboratory.</p> <p>Approximately €2,000 will be required to print student resources and provide consumables used during the programme.</p> <p>Whilst the programme can be delivered using existing resources it is desirable that the energy laboratory receives an investment of €50,000 - €60,000 to update existing heat pump equipment. This will allow for purchase of equipment identical to that used in the industry partner's dedicated heat pump training facility, and thereby ensure a more seamless student experience.</p> |
| 20. | Synergies with Existing Programmes: | None. |
| 21. | Findings and Recommendations: | <p>Commendations:</p> <ol style="list-style-type: none"> 1. This programme is designed to meet a clear gap in the market and will support the roll-out of energy efficient heating mechanisms. 2. The collaboration between GMIT and its industry partner in the development of the programme is welcome. |
| | | <p>Conditions:</p> <ol style="list-style-type: none"> 1. An appropriate MOU should be signed by both parties in advance of the programme commencement, which will ensure the feasibility of the delivery of the programme and protection of learners. |

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| | | Recommendations: <ol style="list-style-type: none"> 1. Ensure that the duration and sequencing of modules is clear and consistent within the documentation. 2. Clarify in the documentation the resources and investment that are essential for the programme to commence and confirm that these will be available in advance of the proposed start date. A longer-term investment strategy to support this and similar programmes should be developed by the School. 3. Consider whether the volume of assessment is appropriate for each module and consider extending the submission timelines given to the target cohort. 4. Ensure that the repeat assessment strategy as stated, is appropriate in all instances. 5. Clarify how the ECTS workload will be achieved by students given the proposed delivery and the target cohort. 6. The proposers should investigate opportunities for further programme development in this area considering government strategy and forthcoming regulations. | |
| 22. | FAO: Academic Council: | Approved: | |
| | | Approved subject to recommended changes: | x |
| | | Not approved at this time: | |
| | Signed: | | |
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| | | Chair | Secretary |