1. Qualification: M.Sc degree	2. Programme Title: MSC REST	3. UCAS Code:	4. Program Class: Postgraduate Taught FT/PT

5. Main Purposes and Distinctive Features of the Programme

- Produce a new generation of technologically-advanced scientists and technologists to lead future developments in the fields of renewable energy systems and technologies
- Train towards delivering high calibre technologists/scientists in the areas of energy materials, renewable energy systems and technologies.
- Provide insight into an advanced material's requirements for current scientific and commercial applications, i.e. those particularly relevant to renewable energy.
- Use in-depth understanding of a material's properties and behaviour in order to design and develop novel renewable energy systems
- Develop novel renewable energy technologies, with a concomitant evaluation of their shortcomings through the interdisciplinary utilisation of smart materials and systems.
- Have an ability to understand and relate to universal standards, together with regulatory issues within the renewable energy and materials arena.
- Appreciate technological, economical and technological factors that may influence multifunctional material choice, manufacturing design, processing conditions and modes of application.
- Design and perform experiments carry out modelling in the renewable energy area, and to apply appropriate assessment methods in order to interpret the significance of their findings.

Special Features:

M.Sc Renewable Energy Systems and Technologies is a program of study involving a series of short modules linked to extended, Integrated Learning Packages associated with each module. Successful completion of each module, together with its follow-up learning package leads to 30 credits towards the final award of an M.Sc degree, i.e. 180 credits in total.

An industrially- or University-based project, once completed to the satisfaction of the project directors/examiners, will account for 60 credits.

6. What a graduate should know and be able to do on completion of the program

To gain the qualification, the student will have demonstrated:

1) subject knowledge and understanding
2) discipline-related practical, cognitive and professional skills
3) further general skills and capabilities (e.g., key/transferable skills/common???)
4) critical awareness of key issues within their subject area
5) a self-critical approach as specified in the learning objectives/outcomes for approved modules in the program

Knowledge and understanding in the context of the subject(s)

- In-depth understanding of renewable energy systems, their applications and limitations.
- An ability to employ the in-depth understanding of energy materials' properties and behaviour in order to design and develop novel devices,
- Develop diagnostic and novel approaches to technological problems and shortcomings through the interdisciplinary utilisation of advanced materials, microelectronics, mechanical, chemical and information technology knowledge.
- Understand and relate to universal standards and regulatory issues within the healthcare and medical devices' arena.

Cognitive skills in the context of the subject(s)

- Application of critical analysis and constructive synthesis.
- Identification of correct design methodologies.
- Ability to synthesise a variety of concepts and solutions.
- Application of creativity and constraint
- Appraisal of technical solutions
- Development of lateral thinking.

Subject-specific practical/professional skills

- Conduct and interpret research and consultancy in the renewable energy field
- Understand IP development and management issues
- Perform cost-benefit analyses on choices of potential raw and manufactured advanced material systems
- Use of case studies to illustrate understanding of technological issues

Other skills (e.g. key/transferable) developed in subject or other contexts

- Problem solving
- Presentation techniques.
- Communication and scientific writing skills.
- Use of a range of predictive and analytical techniques.
- Application of technology
- Management and development of self-disciplinary skills
- Intellectual property development
- Statistical analysis of experimental data

7. Qualities, Skills & Capabilities Profile

A Cognitive	B Practical	C Personal & Social	D Other
Analytical and statistical methods	Report writing	Self-motivation	Environmental awareness
Application of specialised materials/methods	Presentation techniques	Team-working	Economic factors
Critical analysis of both existing and self-generated concepts.	Practical skills	Project management	Awareness of advances/trends in technology
Design and assembly of novel/specialised products	Research skills	Communication skills	Cross-discipline cultures
Synthesis and application of design knowledge	Application of modelling workshop processes	Time management	I.P
Creativity, lateral thinking,	Application of analytical		

critical analysis and constructive synthesis	modelling processes & analysis	Self learning/study skills	Ethical

8. Duration and Structure of Programme/Modes of Study/Credit Volume of Study Units
(1 Year full-time; minimum of 2 years part-time).
Masters Degree = 180 credits;
Intermediate Awards of Post Graduate Certificate and Post Graduate Diploma of Higher Education available at 60 and 120 credits respectively.

Module Name	Number	Core/ Option	Pre-Requisite	Credit Value	Level
Introduction to renewable energy resources	REM01	core		30	M
Advanced Materials and Micro-energy Systems	REM02	core		30	M
Renewable Energy I	REM03	core		30	M
Renewable Energy Technology II: Solar thermal and Solar Cells	REM04	core		30	M
Project	REM05	core	REM01/2	60	M

9. Learning, Teaching and Assessment Strategy	10. Other Information *(including compliance with relevant university policies)*
Learning and Teaching Methods Practical skills are acquired by workshop sessions, demonstrations and activity-based assignments. Active learning is promoted via lectures, directed study, laboratory and modelling sessions, together with a strong, original project theme. Assessment Methods Assessment tasks are linked to the objectives of each module and are normally completed by the end of each module. Types of assessment include: successful completion of three part integrated learning packages, feedback amendments, assignments, projects, case study, viva/interviews and presentations. Assessment Classification System Successful completion of each integrated learning package leads to 30 credits (dependent on the module). Subsequent accumulation of credits leads to the following: 60 credits-Postgraduate Certificate 120 credits-Postgraduate Diploma 180 credits- M.Sc Degree	Date programme first offered September 2009 Admissions Criteria Standard Requirements • For short course element, no formal qualifications are required. • Admission to the M.Sc course is dependent on successful completion of the integrated learning packages and outcome of one to one interviews • Registration on the full-time course will be subject to the university's normal entry requirement for Masters Programmes. In addition, overseas students are required to satisfy the University's English language requirements. Non Standard Entry Experience and Interview. Other cases are dealt with by the admissions tutor on an individual basis Indicators of Quality and Standards • Validation by CMRI's Course Advisory Board with external subject specialists • External Examiner monitors assignments, examinations and a selection of Research Project Dissertations. Minimum Period of Registration for the Part-time M.Sc Degree The minimum period of registration for the part-time M.Sc degree course is 24 months.