



DIPLOMA SUPPLEMENT

This Diploma Supplement model was developed by the European Commission, Council of Europe and UNESCO/CEPES.

The purpose of the supplement is to provide sufficient independent data to improve the international transparency and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc.).

It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value judgements, equivalence statements or suggestions about recognition.

Information in all eight sections should be provided. Where information is not provided, an explanation should give the reason why.

1. Holder of Qualification

- | | |
|---------------------|----------------------|
| 1.1 Family Name(s): | MISHRA |
| 1.2 Given Name(s): | PRIYANSHI RAMKRISHNA |
| 1.3 Date of Birth: | 07th December 1991 |
| 1.4 Student Number: | 17200211 |

2. Qualification and Award

- | | |
|--|---|
| 2.1 Qualification: | Master of Engineering Science (Magisterii in Scientia Ingeniaria) |
| 2.2 Main Fields of Study: | Food Engineering |
| 2.3 Awarding Institution: | National University of Ireland |
| 2.4 Institution Administering Studies: | University College Dublin |
| 2.5 Language(s) of Instruction: | English (or language studied) |

3. Qualification Level

- | | |
|-----------------------------------|--|
| 3.1 Level of Qualification: | Masters Degree (NQAI Level 9) |
| 3.2 Official Length of Programme: | Not Specified |
| 3.3 Access requirements: | Leaving Certificate or equivalent Further Education Awards Other access routes including direct application to institution. Further details www.ucd.ie |

4. Contents and Results Gained

- | | |
|--------------------|-----------|
| 4.1 Mode of Study: | Full Time |
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4. Contents and Results Gained (continued)

4.2 Programme Requirements: The objective of this course is to educate engineers and scientists in the scientific and technological aspects of food manufacturing and processing. This Masters programme provides a comprehensive coverage of the engineering principles involved in bioprocess and food manufacturing systems. Students acquire skills in the application of leading edge technologies to the agrifood industries, including novel food processing and manufacturing technology, food process automation, risk assessment, computer vision for food quality and food safety. The programme enables students to develop specific skills in food manufacturing, food process technology, communication and problem-solving.

On completion of the course students will have attained a unique suite of Knowledge and Understanding Competencies supported by key Practical Skills Competencies essential for a career in the food and bioprocess industry:

Knowledge and Understanding Competencies:

- * Novel food processing technology
- * Food process automation
- * Risk assessment
- * Computer vision for food quality and food safety
- * LCA
- * Waste and energy implications for food manufacturing systems
- * Time management and project scheduling

Practical Skills Competencies:

- * Identify and understand the scientific underpinning of technology for food production and processing
- * Identify and understand traditional and novel food process technologies
- * Carry out risk assessment for the production of safe food
- * Carry out life cycle analysis for food products
- * Understand and assess the full range of health & safety issues associated with work
- * Use a range of field/laboratory/office/equipment in an efficient and safe way
- * Devise scientific hypothesis, carry out course of investigation, apply appropriate measurement techniques, statistical analysis and interpret findings
- * Communicate to scientific/non-scientific audience

4.3 Programme Details: See Appendix 4.3
4.4 Grading Scheme See Appendix 4.4
4.5 Overall Classification: Second Class Honours, Grade 2 (GPA: 2.98)

5. Information on the Function of the Qualification

5.1 Access to Further Study: The Masters in Food Engineering provides a solid foundation for those interested to progress to a PhD Programme.
5.2 Professional Status See www.ucd.ie



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Student Desk & Records

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6. Additional Information

- 6.1 Additional Information: See www.ucd.ie
6.2 Further Information Sources: www.nui.ie, www.ucd.ie, www.nqai.ie

7. Certification

7. Certification

- 7.1 Date: 13th June 2019
7.2 Signature:

- 7.3 Capacity: Registrar and Deputy President

- 7.4 Authentication To verify this document, go to www.ucd.ie/verify and enter Student/Staff ID: 17200211 and Document ID: DBB2361EE6C13327

8. Description of Higher Education and Training System in Ireland

- 8.1 See Appendix 8



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APPENDICES

4.3 Programme Details

Academic Year	Module	Credits Attempted	Credits Earned	Grade	Grade Points
2017/18 Semester 2					
BSEN30060	Quantitative Risk Assessment for Human and Animal Health	5.0	5.0	A	4.0
BSEN30230	Unit Operations in Bioprocess Engineering	5.0	5.0	P(R)	2.0
BSEN40020	Advanced Food Process Engineering	10.0	10.0	C+	3.0
BSEN40090	Thesis	30.0	30.0	B	3.4
BSEN40250	Global Cold Chain Safety	5.0	5.0	B-	3.2
BSEN40460	Research and Teaching Methods	5.0	5.0	C-	2.6
	<i>Semester GPA</i>	<i>3.18</i>			
2017/18 Semester 1					
BSEN30010	Bioprocess Engineering Principles	5.0	5.0	C-	2.6
BSEN30360	Life Cycle Assessment	5.0	5.0	D+	2.4
BSEN40320	Waste to Energy Processes & Technologies	10.0	10.0	D	2.2
BSEN40410	Food Chain Integrity	5.0	5.0	C	2.8
BSEN40440	Food Refrigeration Engineering	5.0	5.0	B-	3.2
	<i>Semester GPA</i>	<i>2.43</i>			
Stage	GPA	Credits			
Stage 1	2.98	90			

4.4 Grading Scheme

		Grades
Standard	Excellent	A+, A, A-
	Very Good	B+, B, B-
	Good	C+, C, C-
	Acceptable	D+, D, D-
	Fail	E, F, G
	No Grade	NG
Non Standard	Audit. No Credit Awarded	AU
	Distinction	DS
	Pass	P
	Pass by Compensation	PC
	Non Module Credits	XG
	No Work	NW
	Withdrawn (Future sittings may or may not have the grade point capped - see Regulations)	W



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4.4 Grading Scheme (continued)

Incomplete	Grades I, IX, IP
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GPA

3.68 to 4.20
3.08 to 3.67
2.48 to 3.07
2.00 to 2.47

Award

First Class Honours
Second Class Honours, Grade 1
Second Class Honours, Grade 2
Pass

Stages and Credits

A student will progress through a programme in stages. Completion of each stage normally requires the successful accumulation of credits specified for each programme.

Programme specifications define the credit requirements of each stage of a programme, and will specify the range of modules which must, or may, be taken in order to satisfy these credit requirements.

1 Credit is equivalent to 1 ECTS credit and is associated with 20-25 hours of learning.

For further information see:

<http://www.ucd.ie/registry/academicsecretariat/asug/>

8. Description of Higher Education and Training System in Ireland

The Irish higher education and training system comprises of a range of higher education institutions Universities, Institutes of Technology, other nationally recognised institutions and independent higher education colleges. The Department of Education and Science maintains a list of Higher Education institutions in Ireland, which provide higher education and training programmes leading to awards included in the National Framework for Qualifications (NFQ). These institutions offer a wide range of different types and levels of awards. Entry to higher education and training is on a controlled basis with the most common entry point being completion of the Leaving Certificate, a State examination taken at the end of second level education. In recent years, there has been an increase in the availability of alternative access routes into higher education and training.

Government Agencies

The Higher Education Authority (www.heai.ie) is responsible for furthering the development and assisting in the co-ordination of State investment in higher education and training, including research. The National Qualifications Authority of Ireland (NQA) (www.nqai.ie) is responsible for establishing and maintaining the National Framework of Qualifications (NFQ). The Higher Education and Training Awards Council (HETAC) (www.hetac.ie) is the awarding body and quality assurance agency for the Institutes of Technology, (other than the Dublin Institute of Technology (DIT)) and other higher education and training providers university sector.

Higher Education Institutions



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There are seven Universities recognised under State legislation. The Universities make their own awards and validate programmes in institutions recognised by them. They provide programmes of study leading to awards included at NFQ Levels 7-10 and engage in basic and applied research. The Universities have primary responsibility for their own quality assurance systems. They established the Irish Universities Quality Board (IUQB) (www.iuqb.ie) which has delegated authority as an independent body, to organise the periodic review of the effectiveness of the quality assurance procedures in place in the Universities as required by State legislation. The HEA also has a review role in relation to quality assurance procedures in Universities.

There are thirteen Institutes of Technology (IoT) which are designated under State legislation. They provide programmes leading to awards at NFQ Levels 6 - 10. The Institutes of Technology make their own awards at specified levels under delegated authority from HETAC.

The Dublin Institute of Technology (DIT) has the authority to make its own awards at NFQ Levels 6 - 10. While DIT has primary responsibility for the implementation of quality assurance procedures, the NQAI has a statutory quality review role in relation to these procedures.

Other providers of higher education and training may apply to HETAC for approval of their quality assurance procedures and subsequent validation of their programmes. While such providers have primary responsibility for quality assurance, HETAC has a statutory role in quality assurance monitoring and review. Furthermore, any person may apply to HETAC for an award based on their lifelong learning achievement without reference to a programme of higher education and training.

The European Credit Transfer and Accumulation System (ECTS) has been incorporated into the awards systems of HETAC, the Institutes of Technology, DIT and the Universities and most programmes are ECTS compatible. ECTS is a learner-centred system for credit accumulation and transfer based on the transparency of learning outcomes and learning processes. It aims to facilitate planning, delivery, evaluation, recognition and validation of qualifications and units of learning as well as student mobility.

National Framework of Qualifications (NFQ)

In terms of higher education and training, the NFQ sets the overall standards for all higher education and training awards. It is the single, nationally and internationally accepted entity, through which all learning achievements may be measured. It also defines the relationship between all education and training awards. It is a 10-level framework based on learning outcomes that are determined by standards of knowledge, skill and competence. Higher education and training awards are at NFQ Levels 6 to 10 and may be made by HETAC, DIT, the Universities and Institutes of Technology with delegated authority. The framework consists of 16 major award types with minor and special purpose awards available at each level and supplemental awards available at NFQ Levels 4 to 10. All awards included in the Framework are underpinned by legislative quality assurance arrangements.



The major awards of the NFQ are set out below together with the alignment to the Bologna Framework and the draft alignment to the European Qualifications Framework (EQF):

EQF Level**	EHEA Framework (Bologna)*	National Framework of Qualifications (NFQ) Level	NFQ Major Award- Types
EQF Level 1		NFQ Level 1	Level 1 Certificate
EQF Level 2		NFQ Level 2	Level 2 Certificate
		NFQ Level 3	Level 3 Certificate Junior Certificate
EQF Level 3		NFQ Level 4	Level 4 Certificate Leaving Certificate
EQF Level 4		NFQ Level 5	Level 5 Certificate Leaving Certificate
EQF Level 5	Short Cycle within First Cycle	NFQ Level 6	Advanced Certificate (VET award) Higher Certificate (HET award)
EQF Level 6	First Cycle	NFQ Level 7	Ordinary Bachelor Degree
		NFQ Level 8	Honours Bachelor Degree Higher Diploma
EQF Level 7	Second Cycle	NFQ Level 9	Masters Degree Post-Graduate Diploma
EQF Level 8	Third Cycle	NFQ Level 10	Doctoral Degree Higher Doctorate

Bologna Framework of Qualifications/European Qualifications Framework

*The Bologna Process, which commenced in 1999, is designed to lead to the creation of the European Higher Education Area (EHEA) by 2010. A central initiative in the process is the adoption of a system based on three cycles undergraduate, graduate and doctorate. The NFQ was formally aligned with the Bologna Framework in 2006.

**Running parallel to the Bologna Process is the development of the European Qualifications Framework (EQF) for lifelong learning. Ireland completed the process of referencing the National Framework of Qualifications to the EQF in May 2009 (see referencing outcome above). Alignment facilitates the recognition of learning and supports access, transfer and progression for learners.

The Diploma Supplement at University College Dublin (UCD)

The Diploma Supplement, which is designed to give a full account of a graduate's Programme of study and award, has been issued automatically and free of charge to all UCD graduates who completed their Programme since 2005. It is similar in content and style to UCD's Academic Transcript, but adheres to the formal format (in terms of fields and information) developed by UNESCO and the Council of Europe.



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The purpose of the Diploma Supplement is to promote transparency in higher education and fair and informed judgements about qualifications. Further information relating to this document can be found at:

http://ec.europa.eu/education/lifelong-learning-policy/ds_en.htm