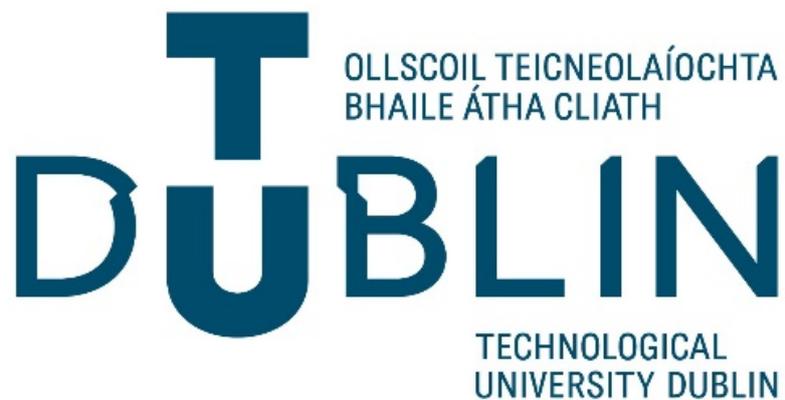# MSc in Sustainable Transport and Mobility
TU226

STUDENT HANDBOOK 2021

School of Civil and Structural Engineering
School of Transport Engineering, Environment & Planning

Welcome to the MSc in Sustainable Transport and Mobility

On behalf of all of our colleagues we would like to welcome you to the MSc in Sustainable Transport and Mobility, a multidisciplinary programme delivered jointly at the TU Dublin School of Civil and Structural Engineering and the TU Dublin School of Transport Engineering, Environment & Planning.

The programme is multi-disciplinary and delivered by a team drawn from a range of professional backgrounds. We believe this is reflective of the integrated nature of contemporary challenges facing the transport planner. The programme is designed to be highly engaged, both with industry and civic society, encouraging current best practice and reflectiveness, and to facilitate new research and innovation in the field of transport planning. At the core of the programme is the principle of sustainability and how integrated transport and mobility networks can be designed for the wider benefit of society, economy and environment.

As the programme is delivered on a part-time basis, many participants will already be practitioners and / or stakeholders in transport planning. It is an aim of the programme to bring a more diverse and wider range of skills into the transport planning profession in Ireland and we hope this can be a very positive experience for all who attend. The programme provides learners with both a theoretical and practical framework but also a basis to develop knowledge and to critically reflect.

This handbook is intended to provide you with some guidance and structure to help you to begin the Programme. If there are any questions not answered here please contact us directly at transport.city@tudublin.ie.

We, the Programme Management Team, look forward to working together with you during your time studying on our MSc in Sustainable Transport and Mobility programme. We wish you well on your journey towards becoming a fully qualified member of the professional transport planning community.

TU Dublin MSc in Sustainable Transport & Mobility PROGRAMME MANAGEMENT TEAM

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1. The Academic Environment

1.1 The Master of Science in Sustainable Transport and Mobility

The Master of Science in Sustainable Transport and Mobility (TU Dublin Programme Code: TU226) is jointly delivered by the TU Dublin School of Civil and Structural Engineering and the TU Dublin School of Transport Engineering, Environment & Planning, within the Dublin Institute of Technology College of Engineering and the Built Environment. Both Schools are based within the TU Dublin Bolton Street campus and deliver a range of programmes in their respective disciplines from apprenticeship training up to PhD level.

1.2 Technological University Dublin (TU Dublin)

The Dublin Institute of Technology (DIT) was established as Technological University Dublin (TU Dublin), Ireland's first technological university, on 1st January 2019. The Institute was first established as an autonomous institution under the DIT Act in 1992, but its origins go back to 1887 and the establishment of technical education in Ireland. It is a publicly funded, autonomous Higher Education Institution and is a member of the European University Association. The Institute is a comprehensive higher education institution, fulfilling a national and international role in providing full-time and part-time programmes across the whole spectrum of higher education, supported by research and scholarship. It is made up of four Colleges:

• College of Engineering and Built Environment;
• College of Arts and Tourism;
• College of Business; and
• College of Sciences and Health.

DIT was granted degree awarding powers in 1998 and makes awards at Higher Certificate, Ordinary Degree, Honours Degree, Masters and PhD levels. Honours Degrees are awarded with grades of Pass, Lower Second Class Honours, Upper Second Class Honours or First Class Honours. Ordinary Degrees are awarded with grades of Pass, Merit Lower Division, Merit Upper Division or Distinction. Higher Certificates are awarded with grades of Pass, Merit Lower Division, Merit Upper Division or Distinction. Within the structure of the new National Framework of Qualifications, each award now has a specific level as follows:

• Doctorate Level 10;
• Master Degree Level 9;
• Honours Degrees Level 8;
• Ordinary Degrees Level 7;
• Higher Certificates Level 6; and
• Foundation Certificates Level 6

1.3 College of Engineering and the Built Environment

The College of Engineering and Built Environment comprises seven Schools formed around the range of disciplines in engineering and the built environment. The College has a current academic structure based around the following Schools:

• School of Architecture;

- School of Civil and Structural Engineering;
- School of Electrical and Electronic Engineering;
- School of Mechanical and Design Engineering;
- School of Multi-disciplinary Technologies;
- School of Surveying and Construction Management;
- School of Transport Engineering, Environment & Planning.

1.4   School of Civil and Structural Engineering

The School of Civil and Structural Engineering at TU Dublin offers a range of undergraduate and postgraduate courses, from Level 7 up to Level 9, in civil and structural engineering. Our courses are fully accredited with Engineers Ireland.

Our courses have a strong technical and practical focus. However, we also place great emphasis on developing our students with team-working skills and professional development, both being important core components of our courses. Our graduates are highly sought after both in Ireland and abroad.

1.5   School of Transport Engineering, Environment & Planning

In 2012 the School of Spatial Planning merged with Transport Engineering to form a new School of Transport Engineering, Environment & Planning. The vision of the School is to develop, promote and optimise the physical, social, technical and cultural elements of the environment through the provision of life-long learning initiatives. Its aim is to equip students with the knowledge, skill and tools to effectively plan and manage the environment.

We provide a range of programmes across the automotive and aviation disciplines, which are fully recognised and internationally recognised. We also provide innovative and career focused education in the area of sustainable development, environmental management, local economic and community development, and planning and regeneration.

Our programmes offer our graduates access to rewarding career paths and equip them to meet the challenges and demands of an ever-changing sector. We provide accredited and recognised undergraduate and postgraduate programmes that are tailored to professional careers and we are active in research and civic engagement.

1.6   TU Dublin and the Grangegorman Project

The National Strategy for Higher Education, published in January 2011, included a new type of university for Ireland – a Technological University. Three institutions in the Dublin region with a combined population of 29,000 students – DIT, ITB and ITT - came together to explore the benefits of structured cooperation and collaboration and to jointly seek designation as a new unitary university, providing educational opportunities that are practice-based and research-informed. DIT, ITB and ITT established a formal alliance in October 2011 and since then colleagues from the three institutions have been working together to develop a programme of work which aims towards designation as a Technological University.

On 17 July, an Taoiseach, Leo Varadkar TD, announced the decision to approve the establishment of Technological University Dublin, to be known as TU Dublin, during a visit to

Grangegorman. The new University was officially designated in January 2019 and the first graduates of TU Dublin were conferred with their TU Dublin awards in February 2019. All students graduating henceforth from the former institutes of DIT, ITB and ITT will be conferred with an award from the new University - Ollscoil Teicneolaíochta Bhaile Átha Cliath / Technological University Dublin - which is Ireland's first Technological University and the only Irish University to offer research-informed and practice-based programmes from Apprenticeship to PhD.

At Bolton Street, TU Dublin has a proud tradition of providing technical education in the centre of Dublin dating back to the nineteenth century with the formal establishment of Dublin's first Technical School. Now TU Dublin is relocating towards the nearby Grangegorman Campus, itself an international award-winning planning project with sustainable mobility principles at the heart of its design. The new campus at Grangegorman, which is the largest investment project in Higher Education within Ireland, will become the largest campus of the new TU. The opening of the Grangegorman Gateway in 2021, which incorporates the LUAS Cross City light rail corridor and stop at Broadstone, will provide a close connection between Bolton Street and Grangegorman, the latter being an active laboratory in sustainable transport and mobility planning.

2. Staff Profiles and Specialisations

MSc in Sustainable Transport and Mobility Lecturing and Management Staff

David O'Connor	Transport Planning, Spatial Planning and Urban Design
Helen Murray	Geographic Sciences and Land Management
John Higgins	Transport Operations, Transport Economics, Legal Studies
Dr. Lorraine D'Arcy	Highway Design, Road Safety, Traffic Modelling, Mobility Management, Active Travel and Behavioral Psychology
Odran Reid	Community Development, Economics, Spatial Planning, Public Policy
Roisin Murray	Public Transport Planning, Transport Policy, Transport Operations
Dr. Sarah Rock	Transport and Land-Use Integration, Street Design, Urban Design and Transport Equity
Una Beagon	Civil Engineering, Project Planning, Professional Skills

3. Programme Philosophy

3.1 Aims and Objectives of the Programme

The MSc in Sustainable Transport and Mobility is a multi-disciplinary programme which aims to provide a professional postgraduate degree qualification in transport planning. The programme is intended for those who wish to engage in the planning, design, regulation and operation of sustainable transport and mobility networks.

The programme aims to produce graduates with appropriate skillsets and a competent understanding to enable them apply best practice in policy, planning, design and operations. These will be examined in the context of enhancing mobility for resilient urban and rural environments and fostering equity and well-being for all. This in turn encapsulates the idea of planning and design for healthy communities and living streets.

The programme content is grounded in the principle of sustainability and will critically consider current policies and international best practice. The competent transport and mobility practitioner requires skillsets but also awareness of the impacts on equity, the economy and environment.

It is an engaged programme and allows students to connect with industry and civic society through active learning and participation. Students will be required, within the programme, to specialise and innovate through group project work and independent research.

The programme objectives are to: -

- Provide a programme leading to the award of MSc in Sustainable Transport and Mobility from TU Dublin;

- Provide a programme, the standard of which will merit membership of professional transport planning institutes in Ireland and internationally;

- Provide individuals from diverse backgrounds with an expert understanding of the most current and emerging concepts of sustainable transport and mobility;

- Offer a high level of relevant applied knowledge and skills in the multidisciplinary science of sustainable transport and mobility;

- Provide a sound knowledge and understanding of the principles and theoretical concepts underlying the philosophy of sustainable transport and mobility;

- Facilitate reflectiveness and critical thinking in sustainable transport and mobility, and its many related areas;

- Provide a comprehensive understanding of the wider context of sustainable transport and mobility, including: social equity, environmental concerns, public health and the need for sustainable economic development;

- Provide a sound knowledge and understanding of the institutional framework of sustainable transport and mobility in Ireland.

3.2   Programme Philosophy

The purpose of the MSc in Sustainable Transport and Mobility programme is to facilitate policy, planning, design and operations for sustainable transport and mobility through a multi-disciplinary, engaged MSc.

The programme sets out to address the increasing complexity of mobility across the lifecycle and in fulfilling a wide spectrum of social needs, including their temporal, geographic and socio-economic distribution and associated travel patterns. There is also the need to recognise the changing needs of society, including changing demographics and settlement patterns.

Transport is a secondary activity, based on derived demand, and needs to be understood fully in the context of society, economy and the environment. This implies provision of transport and mobility services within an environment wherein people can connect with their full requirements.

In order to achieve this, the programme is founded in four pillars of educational practice:-

- **A multi-disciplinary and engaged programme**

- **Skillsets and graduate attributes for the professional transport practitioner**

- **Critical review of current policy and international best-practice**

- **Research and innovation in transport and mobility**

The four pillars and central aim of the programme are illustrated in Figure 1 and expanded on below.

Pillar 1: A multi-disciplinary and engaged programme

The programme, like the field of transport and mobility itself, is highly multi-disciplinary in nature. Students are accepted from a diversity of disciplinary backgrounds and will be encouraged to engage in peer learning in a group setting.

The Programme Team itself is drawn from a range of backgrounds: behaviour science; placemaking and urban design; architecture; public policy; economics; urban planning; transport planning; transport operations; transport engineering; civil and structural engineering; among other related disciplines.

Engagement with professional industry and civic society will be encouraged and facilitated within the programme. Teaching will often be off-site and in seminar format to encourage contributions from students.

Participation in a summer school will involve students in a large-scale group project. As part of this students will be required to engage with an industry or community partner in a Problem-based Learning (PBL) and Students Learning with Communities (SLwC) setting.
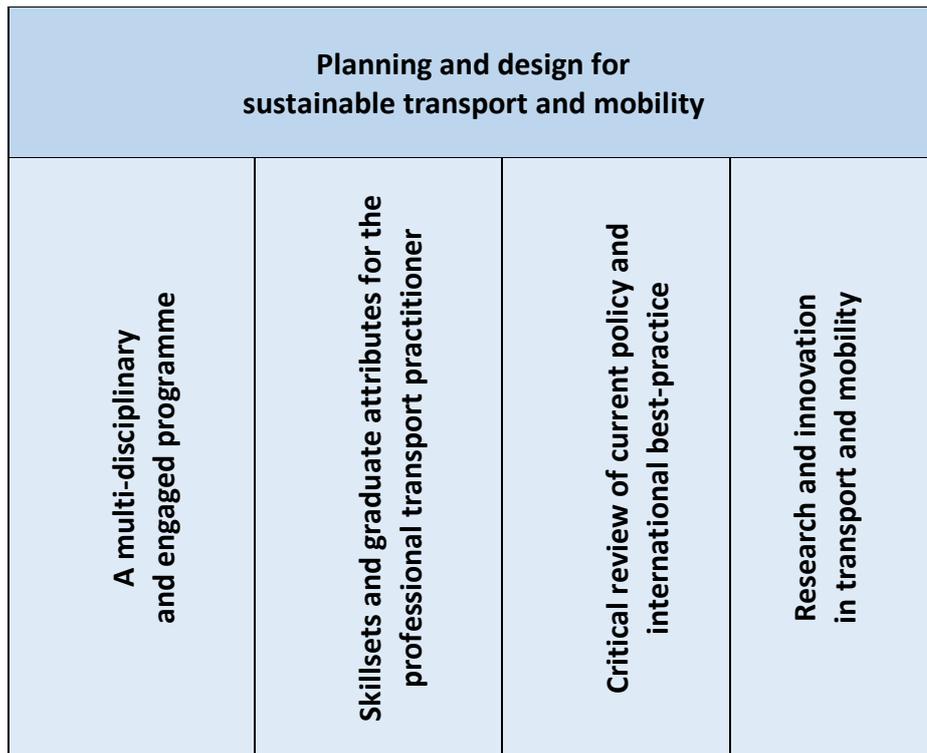
Figure 1: Pillars of MSc Sustainable Transport and Mobility Programme Philosophy

Pillar 2: Skillsets and graduate attributes for a professional transport practitioner

The transport planner requires familiarity and competence in a range of skillsets, including but not exclusive to: transport assessment, mobility management planning, data analytics, modelling and behavioural analysis. The programme exposes students to both traditional as well as emerging toolkits. Critically, the application of these needs to be understood in a contemporary and future-proofed context.

The skillsets and graduate attributes required for a professional transport planner will be subjected to continual programmatic review against the expectations of professional institutes and TU Dublin Graduate Attributes.

Pillar 3: Critical review of current policy and international best-practice

The programme encourages postgraduate students to be reflective and to critically consider current policy and best practice, both locally and internationally.

Where practical, the programme will facilitate site visits to transport planning agencies, both in a policy and operational setting. Guest lectures will be invited regularly to speak with the student group on relevant and current topics.

An international field-trip is available to students which allows comparative analysis and immediate exposure to contemporary practice in a contrasting environment.

Pillar 4: Research and innovation in transport and mobility

Research and innovation in transport and mobility is encouraged throughout the programme, in coursework and in engagement with civic society and industry. The

programme is designed to enable individuals to develop and progress ideas, with a particular emphasis on research skills, innovation and dissemination.

All students are required to complete a large-scale research project into a specialised topic. Students are comprehensively introduced to research techniques and supervised through the progression of this piece of work. A separate research project guide will be made available to students.

3.3   Programme Learning Outcomes

Because students are normally practising professionals from different disciplines, the course provides scope for a considerable degree of inter-disciplinary learning and evaluation of experience both within the student group as well as between lecturers and students. This is particularly valuable given the nature of the Transport and Mobility profession which is inherently multi-disciplinary.   This type of learning is enhanced in the course through deliberate use of real-life case studies and engagement with professional bodies, transport agencies, communities and industry.

On completion of the Programme students will: -

- Develop an understanding of the importance of transport and land use integration and its impacts on sustainable development;
- Appreciate and understand the socio-economic drivers of transport demand, including the dynamics of urban and regional settlements;
- Have a competent understanding of data, an appreciation of data analytics and interpretation of transport data modelling so as to create models of future scenarios;
- Understand and analyse public transport operations and the concept of network design;
- Understand the regulatory environment and the role of governments and markets in transport and mobility;
- Attain a knowledge of the future of cities, the future role of the planner and future paradigms;
- Have an understanding of decision-making systems such as cost benefit analysis and multi-criteria assessment;
- Be able to effectively communicate and engage with communities, stakeholders, elected representatives and experts from related areas on issues of transportation and mobility;
- Be able to develop, contribute to and critically appraise land use & transport plans;
- Be able to develop policy and design tools which can promote mode transfer for sustainable mobility;
- Contribute to the debate and discussion of transport policy-making and policy frameworks with transport components.

The TU Dublin Academic Council recommends that: *"all programmes will provide students with a range of opportunities to develop, practice and be assessed on an agreed range of key employability skills or graduate attributes."*   To ensure that programme learning outcomes are aligned with key transport planning principles, a mapping exercise has been undertaken between the Programme Learning Outcomes and the requirements of Transport Planning

Professional (TPP) as set out in the Transport Planning Society "TPP Guidance Note for Candidates" (TPS, November 2013). The mapping exercise is set out in Table 1 below.

TPP Unit:	A1 - The Policy Context	A2 - Laws and Regulations	A3 - Data	A4 - Transport Models and Forcasting	A5 - Appraisal and Evaluation	A6 - Stakeholder Engagment	A7 - Developing Stratgic and Master Plans for Transport	A8 - Applying the Principles of Transport Systems Design	A9 - Travel Planning	A10 - Commercial and Opperational Management of Transport Systems
Status:	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Additional (2 to be completed)	Additional (2 to be completed)	Additional (2 to be completed)	Additional (2 to be completed)
Develop an understanding of the importance of transport and land use integration and its impacts on sustainable development	x	x			x		x	x	x	x
Appreciate and understand the socio-economic drivers of transport demand, including the dynamics of urban and regional settlements	x	x			x			x	x	x
Have a competent understanding of data, an appreciation of data analytics and interpretation of transport data modelling so as to create models of future scenarios			x	x			x	x		
Understand and analyse public transport operations and the concept of network design	x		x	x			x	x	x	x
Understand the regulatory environment and the role of governments and markets in transport and mobility	x	x			x		x	x		x
Attain a knowledge of the future of cities, the future role of the planner and future paradigms	x	x					x	x	x	
Have an understanding of decision-making systems such as cost benefit analysis and multi-criteria assessment		x			x			x	x	x
Be able to effectively communicate and engage with communities, stakeholders, elected representatives and experts from related areas on issues of transportation and mobility		x				x	x			
Be able to develop, contribute to and critically appraise land use & transport plans	x	x		x	x		x	x	x	x
Be able to develop policy and design tools which can promote mode transfer for sustainable mobility	x	x			x		x	x	x	
Contribute to the debate and discussion of transport policy-making and policy frameworks with transport components	x	x			x	x	x	x	x	

Table 1: Mapping Programme Learning Outcomes to the requirements of Transport Planning Professional (TPP)

The MSc in Sustainable Transport and Mobility programme aims to promote and adhere to the TU Dublin Graduate Attributes. These are to prepare graduates within respective disciplinary fields who are: Enterprising; Expert; Engaged; Enquiry-based; and, Effective. More information about the TU Dublin Graduate Attributes is available at: http://www.dit.ie/teaching/graduateattributes/

4. Programme Content and Delivery

4.1 Structure and Content of the MSc in Sustainable Transport and Mobility

The course is structured on a modular ECTS basis. The European Credit Transfer and Accumulation System (ECTS) is a standard for comparing the study attainment and performance of students of higher education across the European Union and other collaborating European countries. For successfully completed studies, ECTS credits are awarded. ECTS is also designed to make it easier for students to move between different countries. More can be learned about ECTS at:
https://ec.europa.eu/education/resources/european-credit-transfer-accumulation-system_en

The requirements of the MSc in Sustainable Transport and Mobility are that each student must achieve a minimum number of 90 ECTS credits in order to successfully complete the course. A total of 30 credits are assigned to the research and dissemination project. The remaining 60 credits are divided between two academic years and comprise of core and optional modules. Students are awarded credits on the satisfactory completion of each module of the course.

The mode of delivery of the course is based on a number of core modules (80 credits) and two optional modules (10 credits). The programme structure and content are set out in Table 2 below.

Core Modules	Programme Code	ECTS
Introduction to Sustainable Transport and Mobility	SSPL9072	5
Spatial Planning and Sustainable Communities	SSPL9068	5
Local Governance, Development & Innovation	SSPL9064	5
Traffic Management and Road Safety	CIVL9005	5
Transport Economics and Operations	SSPL9089	5
Summer School in Sustainable Transport & Mobility	SSPL9090	5
Behavioural Change and Active Travel	CIVL9013	5
Principles of Public Transport Systems	SSPL9088	5
Transport Modelling and Simulation	CIVL9014	5
Geographical Information Management II	SSPL9053	5
Research Techniques & Dissemination	CIVL9016	30
Optional Modules (choose 10 ECTS)		
International Field Trip	SSPL9033	5
Work Based Project	WKPL9003	5
Smart Cities and ICT	CIVL9015	5
Placemaking	SSPL9067	5

Table 2: Programme Structure and Content

4.2 Core Programme Content

The core programme content requires completion of 10 modules over four semesters. These core modules include participation in a summer school (5 credits) and a research and dissemination project (30 credits). The remainder 45 credits are attained across a number of taught modules, which reflect the programme philosophy and learning outcomes.

4.3 Optional Programme Content

Students are required to take two optional modules as part of the programme. This optional aspect of the programme allows students a number of learning opportunities and choices. These include the opportunity to either participate in an international field trip (5 credits), undertake a Work-based Project (5 credits) or students can choose from a specified selection of modules (5 credits each) also selected to reflect the programme philosophy and learning outcomes. These are delivered by both Schools belonging to the Programme, as well as in other Schools from across TU Dublin.

Students are required to choose between available optional content and agree this with the Programme Chairperson, who will maintain a register of student optional subjects. Attendance at an optional module is subject to timetabling, availability and the approval of the respective module coordinator.

4.4 Summer School in Sustainable Transport and Mobility

Participation in a summer school involves students collectively in a large-scale practical group project. As part of this students are required to engage with an industry or community partner in a Problem-based Learning (PBL) and Students Learning with Communities (SLwC) setting. The Summer School is normally delivered over three consecutive days at the end of semester two of the programme. This may vary to accommodate the specific context and organisation involved in each project. The students may also be embedded within the partner organisation for some or all of the Summer School duration. The Summer School is an opportunity for students to become familiar with the mission, organisation and daily operations of a transport entity on a practical level. The partner organisation will usually assist in designing a brief for the students and be involved in critiquing the final solution provided by the student group.

4.5 Research Techniques and Dissemination

The student must successfully complete a research and dissemination project during the third and fourth semesters. The research and dissemination project may be in the form of a traditional dissertation, a journal article or an appropriate multi-media format, such as a documentary. The research and dissemination topic and literature review must be started during the third semester. Students must submit a project proposal and topics must be agreed and approved by the Research Techniques and Dissemination Module Coordinator in advance of the summer break. A supervisor will also be appointed to each project. In the Research Techniques & Dissemination module, students have the opportunity to present their research dissertation in the form of a documentary or other appropriate research-based multi-media format. This is in line with Universal Design principles, which determine that all students should have an equal opportunity to learn and to demonstrate what they have learned.

Students will be provided with and referred to the **"TU226 MSc in Sustainable Transport and Mobility Guidelines and Regulations on Research and Dissemination"**. The guidelines will include a Work in Progress schedule as well as a final submission date, usually during the final teaching week of the TU Dublin academic calendar in the final semester of the course.

4.6   International Field Trip

The International Field Trip is an optional module (SSPL9033 Sustainable Development and Public Policy in a European Context) and may be delivered in conjunction with other masters programmes within the respective Schools. Typically, student groups will identify their destination and curate their own itinerary, under supervision from a member of academic staff. Some context will be provided by way of introductory lectures and students are required to prepare a Project Handbook, which is often a compilation of case studies in subjects of interest during the field trip. While the bulk of analysis is undertaken in observation mode during the field trip, the Project Handbook is normally compiled on the student's return. It is expected that students are accompanied by a member or members of academic staff.

4.7   Work-based Project

Work-based Project, an optional module, is a period of planned work experience that is completed within an organisation in the transport sector or transport related work experience in another sector. The aim of the module is to introduce the vocational skills necessary to translate the knowledge acquired in other modules into effective action, and to provide learners with the professional applications of the practical components of the programme. The optional provides the student with an opportunity to gain credits for an appropriate and innovative transport and mobility related work experience. Students will undertake learning within the workplace and are required, in consultation with their employer/line manager, to undertake a variety of activities associated with a suitable project, and keep a personal reflective journal.

4.8   Programme Delivery and Duration

The programme is delivered over a four-semester cycle. Student intake is normally on an annual basis, depending on demand, with January course intakes.

The components of the programme based on contact hours (i.e. lectures, tutorials, and seminars) are presented during the four semesters (years 1 and 2).

During the third and fourth semesters, students are required to prepare a major research and dissemination project on a specialist topic within or closely related to transport planning.

4.9   Progression and Exemptions

The MSc in Sustainable Transport and Mobility is a single-step masters degree, meaning all modules are required to be passed and will contribute towards the final grade and award for each student. There is no provision for compensation on the MSc in Sustainable Transport and Mobility programme. Entry to year two is not dependent on obtaining a minimum number of credits at the end of year one.

Where a module requires completion of another module as a pre-requisite, such pre-requisite module must normally be completed first. The module descriptor outlines whether pre-requisite modules are required to commence a module or not.

The programme will implement the TU Dublin policy in regard to the recognition of Prior Learning. It should be noted that a maximum of three exemptions (15 ECTS equivalent) may be given to students in regard to the taught modules. It will not be possible to be given an exemption for the Research Project.

4.10   Exit Award of Postgraduate Diploma in Transport and Mobility

To be eligible for consideration for an exit award of Postgraduate Diploma in Transport and Mobility, a candidate must satisfy all the requirements of the Programme in accordance with the assessment arrangements specified in this document and comply with all appropriate regulations of the Institute.

Students who have accumulated 60 ECTS credits shall be eligible for consideration for award of the Postgraduate Diploma. The Postgraduate Diploma may be awarded at the level of Distinction once the candidate achieves an overall mean of 70% across all the taught modules.

Students who have accumulated 30 ECTS credits (core) shall be eligible for consideration for award of the Postgraduate Certificate. The Postgraduate Certificate may be awarded at the level of Distinction once the candidate achieves an overall mean of 70% across all the taught modules.

4.11   Programme Induction

A programme induction session will be provided to each new cohort of students during the first week of semester one.

5. Admission Requirements and Procedures

5.1 Entrance Requirements

Entrance to the course is contingent on: -

1. **An appropriate honours (minimum 2.2 grade) degree;**

2. **An ability to demonstrate current professional practice <u>OR</u> a minimum of three years past professional experience in transport planning or a related discipline will be considered an advantage.**

Offers of places on the programme can be made to applicants who successfully demonstrate the above criteria via the production of: -

- academic transcripts;
- a professional curriculum vitae;
- appropriate references;
- a brief covering letter.

The brief (one-page) covering letter will be required to outline principal areas of professional expertise and experience. This may also include a short statement of motivation to undertake the programme. Up to two references are required, ideally in support of professional, academic and / or personal ability.

It is envisaged that a wide range of backgrounds will be potentially suitable in terms of the appropriate degree and relevant experience. It is not intended to rule out any particular type of degree or experience profile in advance.

5.2 Programme Selection Board

A Programme Selection Board, convened and chaired by the Programme Chairperson, is responsible for assessing applications. The final decision on offers of places rests with the Programme Selection Board. The Selection Board will comprise at least one member of the Programme Management Team from both Schools involved in the delivery of the programme.

5.3 Derogation on Entrance Requirements

Derogations on entrance criteria can be made at the discretion of the Programme Selection Board. Derogation can be made to applicants who demonstrate a strong aptitude for Sustainable Transport and Mobility or accomplishment in a relevant academic, community or professional setting. This can be, for example, a final year thesis on a transport subject that received a high award or commendation, a contribution to the field of transport through advocacy or community involvement or a contribution to a transport-related initiative in a professional setting. Candidates may be required to attend an interview with the Board on a discretionary basis.

The programme is required to follow the TU Dublin Exceptional Entry (CR4) process, under TU Dublin Quality Assurance procedures, where a candidate fails to meet a particular

standard entry requirement, and the final decision on student exceptional entry rests with the Head of School.

Applicants may also be considered for re-entry onto the Programme where an applicant has received an Exit Award for modules undertaken previously on the programme and the applicant wishes to pursue the MSc award. Re-entry will also be considered by the Programme Selection Board where applicants have previously been granted a deferral of modules or been referred in modules in line with the TU Dublin General Assessment Regulations.

5.4   Recognised Prior Learning

The programme will implement the TU Dublin policy in regard to the recognition of Prior Learning. It should be noted that a maximum of three exemptions (15 ECTS equivalent) may be given to students in regard to the taught modules. It will not be possible to be given an exemption for the Research Project or Summer School modules.

6. Professional and Industry Affiliations

6.1 Professional Accreditation and Affiliation

The **Transport Planning Society** (TPS) is a professional body representing Transport Planners in the UK and internationally. Supported by a number of planning and engineering professional institutes, including the **Institution of Civil Engineers**, the **Royal Town Planning Institute**, the **Chartered Institute of Logistics and Transport** (UK) and the **Institute of Highways and Transportation**, the Society awards the accredited title of Transport Planning Professional (TPP) and provides educational accreditation for third level programmes which may lead to membership and professional recognition within the Society. A Republic of Ireland branch of TPS was established in 2016 and has an active local committee.

The Programme Management Team are in the process of seeking recognition from TPS as an Approved Masters Degree. This accredited status allows graduates to obtain membership and professional recognition within the Society. The Programme Team has commenced engagement with TPS towards achieving this recognition and for the programme to be recognised by the Professional Standards Committee as leading to eligibility for the Transport Planning Professional (TPP) qualification.

Mindful of the professional and technical competencies required for eligibility to professional bodies, and to ensure that programme content is aligned with key transport planning principles, a mapping exercise has been undertaken between the programme modules and the requirements of Transport Planning Professional (TPP) as set out in the Transport Planning Society "TPP Guidance Note for Candidates" (TPS, November 2013). The mapping exercise is set out in Table 3 below. The programme content is balanced to ensure appropriate focus is given to supporting the technical skills of graduates and the ability to work in an inter-disciplinary environment.

	TPP Unit: Status:	A1 - The Policy Context Mandatory	A2 - Laws and Regulations Mandatory	A3 - Data Mandatory	A4 - Transport Models and Forcasting Mandatory	A5 - Appraisal and Evaluation Mandatory	A6 - Stakeholder Engagment Mandatory	A7 - Developing Stratgic and Master Plans for Transport Additional*	A8 - Applying the Principles of Transport Systems Design Additional*	A9 - Travel Planning Additional*	A10 - Commercial and Opperational Management of Transport Systems Additional*
Introduction to Sustainable Transport and Mobility	Core	x	x		x	x		x	x	x	
Spatial Planning and Sustainable Communities	Core	x	x			x		x			
Local Governance, Development & Innovation	Core	x	x			x	x	x	x	x	
Traffic Management and Road Safety	Core	x	x			x			x	x	
Transport Economics and Operations	Core	x	x		x	x		x	x		x
Summer School in Sust. Transport & Mobility	Core	x	x			x	x	x	x	x	x
Behavioural Change and Active Travel	Core	x		x	x	x	x	x		x	
Public Passenger Transportation	Core	x	x		x	x	x	x	x	x	x
Transport Modelling and Simulation	Core	x		x	x						
Geographical Information Management II	Core		x	x	x						
Research Techniques & Dissemination	Core				x						
International Field Trip	Elective	x	x			x					
Work Based Project	Elective	x	x			x		x	x	x	
Smart Cities and ICT	Elective	x	x	x	x	x			x		

* Tw o to be completed

Table 3: Mapping programme content to the requirements of Transport Planning Professional (TPP)

The Programme Management Team also maintains links to other relevant professional bodies in the field of transport, transport planning, planning and engineering. These include:
- Chartered Institute of Logistics and Transport of Ireland
- Chartered Institute of Highways and Transportation (Republic of Ireland branch)
- Engineers Ireland Roads and Transportation Society
- ITS Ireland
- Irish Planning Institute
- Royal Town Planning Institute (Republic of Ireland branch)

The above organisations have been engaged with throughout the design of this programme. Ongoing relations continue to be maintained for the purposes of programme marketing, programme evaluation and wider professional engagement.

6.2 Industrial Advisory Board

Both Schools aim to retain an industry of practice panel to advise on the needs of society and practice and the strategic direction of the programmes.   The School of Transport Engineering, Environment & Planning Advisory Panel was set up in October 2013 and is shown below: -

Dr. Tadhg O'Flaherty	Environmental Consultant
Michael Ewing	Irish Environmental Network
Jackie Keaney	Vice-President CEWEP
P.J. Rudden	RPS Group
Antonia Gaughran	RPS Group
Stephen Little	Planning Consultant
James Nix	An Taisce
Brian Carty	Irish Local Development Network
Lorna Maxwell	Dublin City Council
Geoff Herbert	Institute of Economic Development

The School of Civil and Structural Engineering is currently setting up an Industrial Advisory Panel. The proposed panel membership will consist of civil and structural consulting engineers, contractors and representatives of government bodies. In recognition of the implementation of this new programme, it is also intended to invite a consultant and a local government representative who have a particular interest in transportation and planning issues.

Although both Schools have individual panels, specific issues in relation to this programme will be addressed by a combined panel appropriately selected from each School IAB. The representatives from each School have shown how effectively this has worked in the past as evidenced during the focus group meeting which was organised collaboratively between both schools.

6.3 Links with Industry and Civic Society

The programme maintains close links with professional practice in order to ensure practical relevance to the needs of society. The use of part-time and visiting senior practicing

professionals for teaching is an integral and important means of achieving and maintaining this relevance.

The programme also seeks to maintain close links with civic society groups and works closely with the TU Dublin Access and Civic Engagement (ACE) office in order to ensure practical relevance of the programme to the needs of society.

6.4   Professional Involvement of Staff

The participation by whole-time staff in professional education programmes, conferences and training seminars, professional institutes and committees ensures that students have access to the most up-to-date developments in issues relating to planning in Ireland.

The table below shows the core teaching staff qualifications and professional affiliations: -

Staff Member	Qualification and Affiliation
David O'Connor	MA, MSc, Dipl., MIPI, MCILTI, MTPS
Helen Murray	MSc., MSc., FSCSI, FRICS
John Higgins	MSc, MSOE, MIRTE
Dr. Lorraine D'Arcy	BE MEngSc PhD PGDip MIEI
Odran Reid	MA (Mod), H. DipEd., MSc Spatial Planning, MIPI, MIED
Roisin Murray	DipEng, BEng, ME, PgDip, MCILT
Dr. Sarah Rock	PhD, MUDD, PG Dip UD, BA.,
Una Beagon	MEng PGDip CEng MICE MIStructE MIEI

7. Assessment and Examination

7.1   TU Dublin General Assessment Regulations

Assessment will be undertaken in accordance with Institute, College and School norms and guidelines as specified in the TU Dublin General Assessment Regulations (revised 18 March 2015). The General Assessment Regulations govern all assessment in the Institute. The General Assessment Regulations are available online at:
http://www.dit.ie/qualityassuranceandacademicprogrammerecords/student-assessment-regulations/general/

7.2   Examinations and Assignments

The following assessment methods are provided for in the TU Dublin General Assessment Regulations: -

- Written examination;
- Assignment.

Assignments may be in essay, project report or other form of individual assignment; or by assessment of class performance or a group project. Both forms of assessment can be used in awarding of credits. The weighting of assessment across the programme is shown by module in Table 4 below.

Core Modules	Exam	Course-work	Details
Introduction to Sustainable Transport and Mobility	50%	50%	Group-based project work
Spatial Planning and Sustainable Communities	40%	60%	Group-based project work
Local Governance, Development & Innovation		100%	1 x individual; 1 x group
Traffic Management and Road Safety	60%	40%	team-based project
Transport Economics and Operations		100%	2 x individual assignments
Summer School in Sustainable Transport & Mobility		100%	group project
Behavioural Change and Active Travel	60%	40%	continuous assessment
Public Passenger Transportation		100%	1 x individual; 1 x group
Transport Modelling and Simulation		100%	data analytics and transport modelling exercise
Research Techniques & Dissemination		100%	research proposal; research output
Optional Modules			
International Field Trip		100%	assignment (80%); participation (20%)
Work Based Project		100%	reflective report (40%); poster (50%); self-assessment (10%)
Geographical Information Management II		100%	assignment
Placemaking	50%	50%	assignment
Smart Cities and ICT		100%	continuous assessment

Table 4: Weighting of Programme Assessment by Module

Examination timetables and venues will be notified by the TU Dublin Examinations Office at:
 http://dit.ie/currentstudents/studentservices/examinations/examinationstimetables/

Written exams are normally held at the end of each semester with provision for repeat exams in autumn. Students who fail to pass a module will be informed by the Exams Office of the requirements to retake that module or a component of the module. There is a maximum grade of 40% for resubmissions.

7.3 Teaching and Learning

Teaching and learning strategies will be continually reviewed and renewed in line with TU Dublin Teaching and Learning policy and strategy. The existing modules include many different strategies and approaches. Table 5 shows contact hours and envisaged total learning hours for each module across the programme. Modules which include an element of Blended Learning are also indicated.

Core Modules	ECTS	Includes Blended Learning	Contact Hours	Self-directed Study	Learning Hours
Introduction to Sustainable Transport and Mobility	5	Yes	36	64	100
Spatial Planning and Sustainable Communities	5		24	76	100
Local Governance, Development & Innovation	5		24	76	100
Traffic Management and Road Safety	5		24	76	100
Transport Economics and Operations	5		24	76	100
Summer School in Sustainable Transport & Mobility	5	Yes	24	76	100
Behavioural Change and Active Travel	5	Yes	24	76	100
Public Passenger Transportation	5		24	76	100
Transport Modelling and Simulation	5	Yes	16	84	100
Geographical Information Management II	5	Yes	36	64	100
Research Techniques & Dissemination	30	Yes	30 *		
Optional Modules (choose 10 ECTS)					
International Field Trip	5	Yes	36	64	100
Work Based Project	5	Yes	12	78	100
Placemaking	5	Yes	24	76	100
Smart Cities and ICT	5	Yes	20	80	100
* includes optional 6 hours tutorial support					

Table 5: Contact Hours by Module

7.4 Submission of Assignments

All assignments are to be submitted to the designated school office using the assessment cover sheet, or online through TU Dublin's virtual learning system, by the deadline set by the module coordinator.

Where work is submitted late, unless the student is covered by a medical certificate or equivalent, or unless an approved extension has been obtained from module coordinator, the student will lose up to 20% of the eligible marks for that assessment. An extension must be requested at least two working days before the due date and is at the discretion of the module coordinator. If work is submitted more than one week overdue it may not be marked.

If you are unable to submit an assignment on time for a valid reason (valid reasons are set out in the Personal Circumstances form) you may able to submit a Personal Circumstances form with supporting documentation to your lecturer. The Personal Circumstances form is available at http://www.dit.ie/qualityassuranceandacademicprogrammerecords/student-assessment-regulations/general/

Module coordinators are responsible for setting assessments and are encouraged to discuss and distribute assignments as early as possible in the academic year.

7.5   Compensation

Some programmes at TU Dublin permit for compensation between subjects, usually in restricted circumstances, where a student may not have passed a component or module. There is no compensation system on the MSc Transport and Mobility programme.   All modules are required to be passed and will contribute towards the final grade and award for each student.

7.6   Results and Feedback

Following examinations, an examination board is held, after which marks are released online. Students will receive an e-mail providing details of how to access these results when they are released. Following the completion of semester two, you will also receive written notification of your results.

The final degree award will be classified based on the final average grade calculated across all credits awarded.

Average Mark	Classification
>=70%	First Class Honours (usually called a *first*)
60%- 69%	Second Class Honours, Upper Division (usually called a *two-one*)
50%-59%	Second Class Honours Lower Division (usually called a *two-two*)
40% - 49%	Pass

Those who are completing examinations in the August supplemental session will receive notification of results online in September. Students will receive an e-mail providing with details of how to access these results when they are released.

Upon completion of the examination process, you can view your examination script. The rules for rechecks, remarks and appeals are outlined in the General Assessment Regulations as described in section 1.13.

In the final year of the programme, students may be invited to meet with the external examiners at the time of the final examination board in June.   The external examiners for the programme play a vital role in assuring the quality of the programme.

TU Dublin graduation ceremonies are held at St Patrick's Cathedral, with two taking place for each College per annum. These occasions are both normally held on Saturdays during February and October, with a reception afterwards in TU Dublin Aungier Street.

7.7   Plagiarism and Cheating

All assessments are intended to determine the skills, abilities, understanding and knowledge of each of the individual students undertaking the assessment. Cheating is defined as obtaining an unfair academic advantage and any student found using any form of cheating, attempting to cheat or assisting someone else to cheat may be subject to disciplinary action in accordance with the Institute's Disciplinary Procedure.

Students should familiarise themselves with academic assessment regulations regarding plagiarism. Plagiarism includes (but is not limited to) copying the work of others (from

published or unpublished sources, paper or electronic, written or graphic) without due citation, closely paraphrasing the work of others, simply joining together what is substantially existing work (even if cited) and submitting the work of others as your own. This is a serious issue and can result in formal disciplinary action. Additionally students should familiarise themselves with academic conventions on citing work and other matters of written style. There are a variety of style manuals and other publications in the library covering this subject.

8. Accommodation and Facilities

8.1   Teaching Accommodation

Dedicated teaching accommodation for the programme is provided in the main Bolton Street building. All teaching, studios and seminar rooms are equipped with modern audio visual facilities. Studios are equipped, where possible, with appropriate studio materials and tools, but generally students are required to provide their own studio equipment and materials, such as papers, cardboard, glues, cutting, binding mounting etc.

8.2   TU Dublin Information Services

You are provided with your login for the Institute's IT Systems when you register. You use the same login for:
•   Brisghtspace: http://www.dit.ie/brightspace
•   Email: http://mytudublin.ie/
•   Computer laboratories
•   Wifi

You will find a detailed explanation of how to use the TU Dublin IT systems, including those listed above, printing services, password facilities and others at http://www.dit.ie/is/student/.

Prior to using TU Dublin computer services, all students should familiarize themselves with TU Dublin's Student Regulations Governing the use of Computer Resources - http://www.dit.ie/is/governance/regulations/studentregulations/.

You can get support for your IT queries by contacting support@dit.ie or by ringing 01 402 3123.

Students should familiarise themselves with the regulations regarding the use of computers and other IT equipment at TU Dublin. In particular, students should familiarise themselves with regulations pertaining to the use of email and the Internet.

The Institute's computer facilities and services should not be used to create, send, post, download, forward, view, store or display offensive, abusive, slanderous, vulgar, threatening or defamatory messages, text, graphics, or images or material from whatever source which may put the Institute at risk of prosecution, civil action, embarrassment or loss of reputation. This includes harassment, discrimination and intimidation of individuals on the basis of race, sex, religion, ethnicity, sexual orientation, disability, age marital status, family status or membership of the traveler community, etc.

Further information on use of computer facilities and regulations are available on the TU Dublin website at: http://www.dit.ie/is/student

8.3   TU Dublin Virtual Learning Environment (VLE) - BrightSpace

Brightspace is currently TU Dublin's online virtual learning environment. This system is used for delivery of lecture notes, online discussion, assignment submission and assessment

feedback. You can access BrightSpace online at http://www.dit.ie/brightspace using your IT login. If you cannot access a particular module, you should contact the module lecturer.

8.4   TU Dublin Library

Each of the TU Dublin centres is equipped with a library containing modern lending and research facilities. Approximately 170,000 volumes are held and about 1,000 periodicals are subscribed to. The central library system is based in TU Dublin Aungier Street and an automated library management system is in place at all TU Dublin campus sites. Students may query and search for texts only via the TU Dublin website. All volumes are bar coded and lending facilities are controlled and managed by the system.

The TU Dublin Bolton Street library was refurbished in the summer of 2010. It has 420 seats, contains circa 40,000 volumes and subscribes to about 400 current periodicals. In addition, it has CDROM databases, access to the internet, micro-fiche, maps, videos, slides and photocopying services. Students are actively encouraged to make full use of all the information services during project work and research.

The budget for the library is determined on an annual basis and is derived from the central library fund of the TU Dublin. Library staff at TU Dublin Bolton Street manage all titles and ordering for all Schools. Requests for publications and journals are made to staff at the start of the academic year and periodically during the year. The planning reference library is well stocked, with significant and recent publications journals and periodicals.

Students can access TU Dublin's online library system at http://www.dit.ie/library/. Certain facilities require the use of a login name and password. TU Dublin library staff can advise you on how to access these systems.

Opening hours for the library vary according to the time of year. You can find opening hours online at http://www.dit.ie/library/openinghours/.

A library tour and induction will be provided by TU Dublin Librarians in arrangement with the Programme Chairperson at the start of semester one.

9. Student Life

9.1   Health and Safety

All students must familiarise themselves with the Health and Safety rules of the Institute, which are available online at http://www.dit.ie/healthsafety/.

9.2   Rules & Regulations Governing Student Activity at TU Dublin

Rules & Regulations Governing Student Activity at TU Dublin are available online at:
http://www.dit.ie/studentservices/studentservicecentres/ditrulesregulationsforstudents/

9.3   Student Charter

The mission of the Institute emphasises partnerships between staff and students and working together to improve the quality of service and the response to diversity of needs.

The focus in our Institute community is thus on personal responsibility to each other. Our Student Charter is intended to underpin this joint personal accountability, and was drawn up by a group of staff and students after consultation with staff and students across the Institute. It sets out the level of service and standards of excellence we intend to provide for our students from the point of making an application to come to the Institute, to student life while studying here including the academic, social, cultural & athletic environments of the Dublin Institute of Technology and describes the Institute's expectations of students in such matters.

The student charter is available online at:
http://www.dit.ie/media/campuslife/olddocuments/DITStudentCharter.pdf.

9.4   Student Input into Academic Quality

Students play a vital role in programme development and monitoring. As a student, you can provide feedback both formally and informally. You are also represented, through your class representative, on the programme committee, and by the Student Union on College Board and Academic Council.

Upon completion of each module, you are asked to submit a Student Feedback Form (Q6A) to your lecturer. Your lecturer will use this feedback in the ongoing development of their module.

Once per year you are asked to provide general feedback on your programme using the Programme Survey Questionnaire (Q6C). This feedback is provided to school management and is used for the ongoing development of the programme.

Copies of these forms are available online at:
http://www.dit.ie/qualityassuranceandacademicprogrammerecords/forms/

Staff-student meetings are held throughout the year, during which you get an opportunity to provide feedback to the academic staff on the programme. You can, at any point, ask to meet with your lecturer or your class tutor to provide informal feedback.

Each cohort of students is encouraged to nominate a class representative. Class Reps are invited to attend a Programme Committee meeting each semester. Support and information for Class Reps is available from the TU Dublin Student Union - http://www.tudublinsu.ie/

9.5   Academic Quality and Programme Review

The Programme Committee is responsible for designing, monitoring and managing your programme. The Programme Committee meets at least once per semester. Your class representative is a member of this committee and can bring issues of concern to the committee. At the end of each academic year the programme committee produces an Annual Monitoring (Q5) report which provides a review of the year, incorporating feedback from students, staff and external examiners, leading to actions which will help enhance the programme in the following year.

College Board has responsibility for developing and monitoring the implementation of academic policy matters and academic quality assurance procedures. All modifications to your programme need to be approved first by the Programme Committee and then by College Board. General academic issues of relevance to programmes in the College are discussed at College Board. You are represented at College Board by your Student Union.

Academic Council is a statutory body, provision for which is made in the DIT Act. It is appointed by the Governing Body of the Institute to assist it in the planning, co-ordinating, developing and overseeing the academic work of the Institute and in protecting, maintaining and developing the academic standards of the programmes and other academic activities of the Institute. You are represented on Academic Council by your Student Union.

Every five years the Programme Committee is required to review the programme, and present the reviewed programme to a panel comprised of academic staff from TU Dublin, academic staff from elsewhere and industry representatives. This review is informed by the annual monitoring process and your feedback.

9.6   Clubs and Societies

There is a vast array of societies on offer in TU Dublin. Currently there are in excess of 75 societies which range from volunteering, performing arts, course-related, campaigning & political, religious, sign language, student media, plus so much more. TU Dublin Societies are run by the students for the students and supported by the staff of the society's office through advice, administration and finance.

For more details see http://www.dit.ie/societies/.

9.7   TU Dublin Campus Life Support for Students

TU Dublin's Campus Life (http://www.dit.ie/campuslife/) provides a range of supports and information for students about:
- Accommodation

- Careers
- Chaplaincy
- Counselling
- Disability Service
- Health Centre
- Mature Student Support
- Sports
- Student Financial Aid
- Study Skills

9.8   Useful Links

Technological University of Dublin – http://www.tudublin.ie
Dublin Institute of Technology – http://www.dit.ie (in use for transitional period only)
TU Dublin Access Service – http://www.dit.ie/ace
Campus Life - http://www.dit.ie/campuslife/
Careers Service - http://www.dit.ie/careers/
Chaplaincy - http://chaplaincy.dit.ie/
Counselling - http://www.dit.ie/campuslife/counselling/
Disability Support Service - http://www.dit.ie/campuslife/disability/
Health and Safety - http://www.dit.ie/healthsafety/
Health Centre - http://www.dit.ie/campuslife/studenthealthservice/
Information Systems - http://www.dit.ie/is/student/
Library - http://www.dit.ie/library/
Mature Student Support - http://www.dit.ie/study/mature/support/
Registrations - http://www.dit.ie/registration/
Replacement student cards: http://www.dit.ie/registration/studentidcard/replacements/
Societies - http://www.dit.ie/societies/
Sports - http://www.ditsports.ie/
Student Union - http://www.ditsu.ie/
How to get to TU Dublin: http://www.dit.ie/campuslife/transport/

9.9   Join the TU Dublin graduate network

The TU Dublin Graduate Network keeps graduates in touch with each other and with TU Dublin. The Network, which was launched in 1997 as a networking association for former TU Dublin students, has 100,000 members worldwide. As part of the network graduates receive updates about TU Dublin and alumni via the Graduate Network e-zine and Facebook page as well as information about events and class reunions for alumni. Members can also avail of a gym and library membership discount. Recent events have included class reunions for 10, 20 and 40 year anniversaries; alumni tours of Grangegorman campus; receptions in London, Brussels, Chicago, as well as events for alumni and students with guest speakers from TU Dublin's diaspora.

10.   Programme Scheduling and Timetables

10.1   TU Dublin Academic Calendar

The academic year is divided into two semesters. Each semester is comprised of 13 weeks of classes followed by examinations. Semester one runs from January to June.   Semester two runs from September to January. The TU Dublin academic calendar is available online at http://www.dit.ie/academicaffairsandregistrar/calendar/.

10.2   Semester Timetables

Semester Timetables are announced in advance of the commencement of teaching each semester and are posted on the fourth floor corridor.

Students can access their personal timetable online at:
http://www.dit.ie/timetables/.

A guide to using the timetabling system is available at:
http://www.dit.ie/registration/studentclasstimetables/.

11.   MODULE DESCRIPTORS

The descriptions of the content, aims, learning outcomes, teaching methods and assignment types for each module delivered are set out below.

Core Modules

SSPL9072 Introduction to Sustainable Transport and Mobility
SSPL9068 Spatial Planning and Sustainable Communities
SSPL9089 Transport Economics and Operations
CIVL9005 Traffic Management and Road Safety
SSPL9088 Principles of Public Transport Systems
CIVL9014 Transport Modelling and Simulation
CIVL9013 Behavioural Change and Active Travel
SSPL9053 Geographical Information Management II
SSPL9064 Local Governance, Development & Innovation
SSPL9090 Summer School in Sustainable Transport & Mobility
CIVL9016 Research Techniques & Dissemination

Optional Modules

SSPL9033 Sustainable Development and Public Policy in a European Context
WKPL9003 Work Based Project
CIVL9015 Smart Cities ICT
SSPL9067 Placemaking