



Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

School of Social Sciences & Philosophy
Department of Economics.

Diploma in Applied Economics and Big Data Handbook 2024/2025

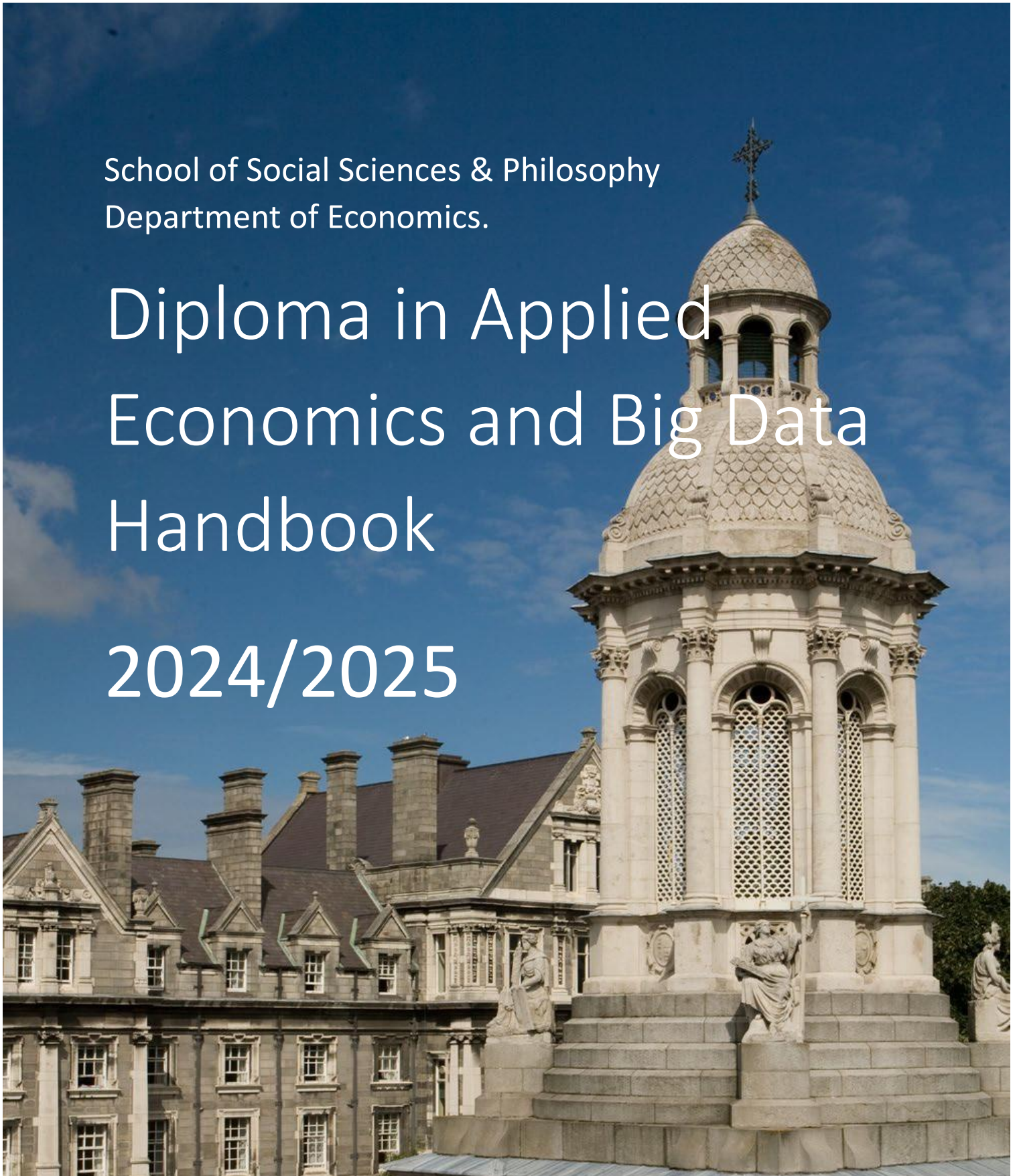


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A note on this Handbook

In the event of any conflict or inconsistency between the General Regulations published in the [University Calendar](#) and information contained in programme or local handbooks, the provisions of the General Regulation in the Calendar will prevail.

Alternative formats of the Handbooks can be made available on request.

1. General College Information

1.1 Student Services & Support

The Programme Administrator dip.aebd@tcd.ie is your first port of call for all general queries. College also provides a range of administrative, academic and wellbeing supports and services to help smooth your route through college. You can find further information at the links below:

- **Careers Advisory Service** | www.tcd.ie/careers
- **Graduate Studies Office** | www.tcd.ie/graduatestudies
- **Mature Student Office** | www.tcd.ie/maturestudents
- **Student Services Website** | www.tcd.ie/student-services
- **Trinity Disability Service** | www.tcd.ie/disability
- **Student Learning Development** | <https://student-learning.tcd.ie/>

1.2 Postgraduate Advisory Service (PAS)

What?

The Postgraduate Advisory Service (PAS) is a free and confidential service available to all registered postgraduate students in Trinity College. PAS offers a comprehensive range of academic, pastoral and professional supports including one-to-one appointments, workshops and trainings, and emergency financial assistance.

Why?

PAS exists to ensure that all postgraduates students have a dedicated, specialist service independent of the School-system to whom they can turn for support and advice during their time at Trinity. Common concerns students present to PAS include stress; financial worries; queries about regulations or services available at Trinity; supervisor-relationship concerns; academic progression issues; academic appeals.

Who?

The Postgraduate Advisory Service is led by the Postgraduate Student Support Officers who provide frontline support for all Postgraduate students in Trinity. These Support Officers will act as your first point of contact and a source of support and guidance; they can also put you in touch with or recommend other services, depending on your needs.

How?

For an appointment, please e-mail postgrad.support@tcd.ie.

For further information, please visit our [website](#), check out the regular PAS newsletter sent to all postgraduates via email, or follow PAS on Instagram (@TCDPGAdvisory).

1.3 Support Provision for Students with Disabilities

Trinity has adopted a Reasonable Accommodation Policy that outlines how supports are implemented in Trinity. Students seeking reasonable accommodation whilst studying in Trinity must apply for reasonable accommodations with the Disability Service in their student portal my.tcd.ie.

Based on appropriate evidence of a disability and information obtained from the student on the impact of their disability and their academic course requirements, the Disability Staff member will identify supports designed to meet the student's disability support needs. Following the Needs Assessment, the student's Disability Officer prepares an Individual Learning Educational Needs Summary (LENS) detailing the Reasonable Accommodations to be implemented. The information outlined in the LENS is communicated to the relevant School via the student record in SITS.

Further information on Postgraduate Student Supports [here](#).

Examination accommodation and deadlines:

Students should make requests as early as possible in the academic year. To ensure the Assessment, Progression and Graduation Team can set your accommodations for examination purposes the following deadlines are applied:

- Semester 1 assessments: the last Friday of October annually.
- Semester 2 assessments: the last Friday of February annually.

Student responsibilities for departmental assessments/course tests:

Students are required to initiate contact with the School/Department and request reasonable accommodations as per their LENS report, or email received following their needs assessment for particular assessments for School/ Department administered assessment. Students are advised to make contact at least two weeks prior to the assessment date to enable adjustments to be implemented.

Please note: no reasonable accommodation can be provided outside the procedures outlined in the Trinity Reasonable Accommodation Policy. For further information please visit: <https://www.tcd.ie/disability/current/how-reasonable-accommodations-work-in-trinity/>

1.4 Co-Curricular Activities

- **TCD Sports Clubs** | <https://www.tcd.ie/sport/student-sport/sport-clubs/>
Trinity has 50 sports clubs in a range of disciplines, from Basketball to Archery.
- **TCD Societies** | trinitysocieties.ie
Trinity offers over 100 societies across the University. From arts, culture, politics and debating to gaming, advocacy and music, you're sure to find your niche.
- **Student Union** | www.tcdsu.org
The Trinity College Students Union is a union for students, by students. It represents the student body at College level.

1.5 Emergency Procedure

In the event of an emergency, dial Security Services on extension 1999. Security Services provide a 24-hour service to the college community, 365 days a year. They are the liaison to the Fire, Garda and Ambulance services and all staff and students are advised to always telephone extension 1999 (+353 1 896 1999) in case of an emergency. Should you require any emergency or rescue services on campus, you must contact Security Services. This includes chemical spills, personal injury or first aid assistance. It is recommended that all students save at least one emergency contact in their phone under ICE (In Case of Emergency).

1.6 Data Protection

Please note that due to data protection requirements, staff in the School of Social Sciences and Philosophy cannot discuss individual students with parents/guardians or other family members. As the University considers students, even if they are not yet 18, to have the maturity to give consent for the use of their data, in normal circumstances, the University will not disclose personal data to the parents, guardians or other representatives of a student without the student's consent.

The University's preference is to receive written consent by way of email from the student where possible. Without such consent the University will not release any details regarding students including details of their registration, attendance, results, fee payments etc.

Trinity College Dublin uses personal data relating to students for a variety of purposes and we are careful to comply with our obligations under data protection laws.

Further information on how we obtain, use, and disclose student data can be viewed on the Trinity website: www.tcd.ie/dataprotection

1.7 Health & Safety Statements

The College Safety Statement can be viewed on the Trinity website:

<https://www.tcd.ie/students/orientation/shw/>

1.8 University Regulations

Please reference the links below for College regulations, policies and procedures:

- **Academic Policies**
www.tcd.ie/teaching-learning/academic-policies
- **Student Complaints Procedure**
www.tcd.ie/about/policies/160722_Student%20Complaints%20Procedure_PUB.pdf
- **Dignity and Respect Policy**
www.tcd.ie/hr/assets/pdf/dignity-and-respect.pdf

2. General Course Information

2.1 Introduction

Welcome from Programme Director/s

Dear student,

Welcome to the **Diploma in Applied Economics and Big Data** at the Department of Economics at Trinity College Dublin! We are delighted that you have chosen Trinity College Dublin - one of Europe's oldest and most reputable universities – to pursue your postgraduate studies.

The aim of our Diploma is to equip you with the tools of a modern economist and acquaint you with the latest topics, methods and policies employed in applied economics using big data.

As our graduate, you will be well-placed to pursue a successful career after your graduation. Our graduates work in multinational corporations, government, international organisations, nongovernmental organisations or pursue academic careers at top-ranked universities.

Our Department offers an ideal environment to support you while you study towards your Diploma. You will find a dynamic and vibrant community, with established concentrations in international development, international macroeconomics and growing clusters in areas such as political economy and economic history. Our faculty research is at the forefront of their fields.

We expect you to work hard, but we promise to provide you with an environment where you can always find academic and pastoral support.

I look forward to meeting you over the course of the year and if I can be of any help, please come and see me for a chat.

Professor Davide Romelli

Course Director.

Welcome from the Programme Administrator

Welcome to the Department of Economics and the Diploma in Applied Economics and Big Data course. My name is Tara Smullen, and I am the administrator for the programme. If you have any administrative queries, you can email me at dip.aebd@tcd.ie or drop into the office (room 3014, Arts Building). Please ensure you regularly check your Trinity email account, as I will use this for all announcements relating to the programme.

Tara Smullen

Executive Officer

2.2 Programme Governance

The Diploma in Applied Economics and Big Data is governed by the Diploma Management committee which is a sub-committee of the School of Social Sciences and Philosophy Executive and Postgraduate Teaching and Learning Committees. Membership of the Diploma Management Committee includes the Academic Director (Prof. Davide Romelli), the Administrative Officer (Tara Smullen), and Committee members Prof. Agustin Benetrix (Head of Department), Prof. Tara Mitchell, Prof. Marvin Suesse, and a student representative.

2.3 Contact Details

Head of the School of Social Sciences & Philosophy Professor Paul O’Grady Tel. +353 1 896 1522 E-mail: pograd@tcd.ie
Head of Department Prof Agustín S. Bénétrix E-mail: benetra@tcd.ie
School Director of Teaching & Learning (Post-Graduate) Prof Selim Gulesci E-mail: gulescis@tcd.ie
Course Director/s Prof Davide Romelli E-mail: romellid@tcd.ie
School Manager Ms Olive Donnelly Tel. +353 1 896 2499 E-mail: olive.donnelly@tcd.ie
Programme Administrator Ms Tara Smullen Tel. +353 1 896 1325 E-mail: dip.aebd@tcd.ie

2.4 Key Locations

Department

The Department of Economics office, Room 3014 is located on the 3rd floor of the Arts Building in Trinity College Dublin.

Maps of campus are available at <https://www.tcd.ie/Maps/map.php>

Blackboard

Blackboard is the College online learning environment, where lecturers will give access to material like lecture notes and discussion forums. The use of Blackboard varies from module to module and individual lecturers will speak to you about the requirements for their module. In order to access a module on Blackboard you should be registered to the module by your Programme Administrator. Blackboard can be accessed via tcd.blackboard.com.

Email

All official email correspondence will be sent to TCD email addresses only. You should check your email on a regular basis. When emailing the Administration, students should always include their TCD Student ID Number.

Student Portal

<https://my.tcd.ie> allows students to view their own central student record containing all relevant information related to the course for which you are registered. To access the system, you will need your College username and network password.

If your personal student information is incorrect, you should contact Academic Registry (via email, academic.registry@tcd.ie) stating your full name and student ID number. If your timetable module list is incorrect then you should notify the Programme Administrator.

Academic Registry

Academic Registry ("AR") manages course registration and fees. Their website can be accessed here: <https://www.tcd.ie/academicregistry/>. The Academic Registry offices are located in the Watts Building, on the east side of the main campus.

2.5 Key Dates

Michaelmas Term

- 9 September - 13 September 2024: 1. Introduction to Statistics and Regression Analysis – Part 1
- 16 September - 18 October 2024: Teaching Period 1
- 21 October - 25 October 2024: Study Week
- 28 October - 29 November 2024: Teaching Period 2
- 9 December - 14 December 2024: Assessment

Hilary Term

- 20 January – 28 February 2025: Teaching Period 3
- 3 March - 7 March 2025: Study Week
- 10 March - 11 April 2025: Teaching Period 4
- 21 April - 2 May 2025: Assessment
- 19 May – 30 May 2025: Reassessment Period

2.6 Timetable

The updated course timetable will be available online shortly before the start of the Michaelmas term. Personal timetables will be available to students through <https://my.tcd.ie>.

The Academic Year Structure is available [here](#).

Academic Calendar Week	Week beginning	2024/25 Academic Year Calendar		Term / Semester
		UG continuing years / PG all years	UG new first years	
1	26-Aug-24	Reassessment * (Semesters 1 & 2 of 2023/24)		← Michaelmas Term begins/Semester 1 begins
2	02-Sep-24	Orientation (Postgraduate, Visiting & Erasmus); Marking/Results		
3	09-Sep-24	Teaching and Learning		← Michaelmas teaching term begins
4	16-Sep-24	Teaching and Learning	Orientation (JF UG)	
5	23-Sep-24	Teaching and Learning	Teaching and Learning	
6	30-Sep-24	Teaching and Learning	Teaching and Learning	
7	07-Oct-24	Teaching and Learning	Teaching and Learning	
8	14-Oct-24	Teaching and Learning	Teaching and Learning	
9	21-Oct-24	Study/Review	Study/Review	
10	28-Oct-24	Teaching and Learning (Monday, Public Holiday)	Teaching and Learning (Monday, Public Holiday)	
11	04-Nov-24	Teaching and Learning	Teaching and Learning	
12	11-Nov-24	Teaching and Learning	Teaching and Learning	
13	18-Nov-24	Teaching and Learning	Teaching and Learning	
14	25-Nov-24	Teaching and Learning	Teaching and Learning	
15	02-Dec-24	Revision	Revision	
16	09-Dec-24	Assessment *	Assessment * ~	← Michaelmas term ends Sunday 15 December 2024/Semester 1 ends
17	16-Dec-24			
18	23-Dec-24	Christmas Period - College closed 24 December 2024 to 1 January 2025 inclusive	Christmas Period - College closed 24 December 2024 to 1 January 2025 inclusive	
19	30-Dec-24			
20	06-Jan-25	Foundation Scholarship Examinations ^		
21	13-Jan-25	Marking/Results	Marking/Results	← Hilary Term begins/Semester 2 begins
22	20-Jan-25	Teaching and Learning	Teaching and Learning	← Hilary teaching term begins
23	27-Jan-25	Teaching and Learning	Teaching and Learning	
24	03-Feb-25	Teaching and Learning (Monday, Public Holiday)	Teaching and Learning (Monday, Public Holiday)	
25	10-Feb-25	Teaching and Learning	Teaching and Learning	
26	17-Feb-25	Teaching and Learning	Teaching and Learning	
27	24-Feb-25	Teaching and Learning	Teaching and Learning	
28	03-Mar-25	Study/Review	Study/Review	
29	10-Mar-25	Teaching and Learning	Teaching and Learning	
30	17-Mar-25	Teaching and Learning (Monday, Public Holiday)	Teaching and Learning (Monday, Public Holiday)	
31	24-Mar-25	Teaching and Learning	Teaching and Learning	
32	31-Mar-25	Teaching and Learning	Teaching and Learning	
33	07-Apr-25	Teaching and Learning	Teaching and Learning	
34	14-Apr-25	Revision (Friday, Good Friday)	Revision (Friday, Good Friday)	← Hilary Term ends Sunday 20 April 2025
35	21-Apr-25	Assessment * (Monday, Easter Monday)	Assessment * (Monday, Easter Monday)	← Trinity Term begins
36	28-Apr-25	Trinity Week (Monday, Trinity Monday)	Trinity Week (Monday, Trinity Monday)	
37	05-May-25	Marking/Results (Monday, Public Holiday)	Marking/Results (Monday, Public Holiday)	
38	12-May-25	Marking/Results	Marking/Results	
39	19-May-25	Marking/Results	Marking/Results	
40	26-May-25	Research	Research	← Trinity Term ends Sunday 1 June 2025/Semester 2 ends
41	02-Jun-25	Research (Monday, Public Holiday)	Research (Monday, Public Holiday)	
42	09-Jun-25	Research	Research	
43	16-Jun-25	Research	Research	
44	23-Jun-25	Research	Research	
45	30-Jun-25	Research	Research	
46	07-Jul-25	Research	Research	
47	14-Jul-25	Research	Research	
48	21-Jul-25	Research	Research	
49	28-Jul-25	Research	Research	
50	04-Aug-25	Research (Monday, Public Holiday)	Research (Monday, Public Holiday)	
51	11-Aug-25	Research	Research	
52	18-Aug-25	Research	Research	

* Note: additional/contingency days may be required outside of the formal assessment/reassessment weeks.

~ Note: it may be necessary to hold a small number of JF examinations/assessments outside of semester 1.

^ Note: it may be necessary to hold some examinations/assessments in the preceding week.

3. Academic Policies

3.1 Academic Integrity & Referencing

3.1.1 Academic Integrity

It is clearly understood that all members of the academic community use and build on the work and ideas of others. However, it is essential that we do so with integrity, in an open and explicit manner, and with due acknowledgement. Any action or attempted action that undermines academic integrity and may result in an unfair academic advantage or disadvantage for any member of the academic community or wider society may be considered as academic misconduct. Examples of academic misconduct include, but are not limited to:

- **Plagiarism** - presenting work / ideas taken from other sources without proper acknowledgement. Submitting work as one's own for assessment or examination, which has been done in whole or in part by someone else or submitting work which has been created by using artificial intelligence tools, where this has not been expressly permitted.
- **Self-plagiarism** - recycling or borrowing content from the author's own previous work without citation and submitting it either for an assignment or an examination.
- **Collusion** - undisclosed collaboration of two or more people on an assignment or task, or examination, which is supposed to be completed individually.
- **Falsification/fabrication.**
- **Exam cheating** - action or behaviour that violates examination rules in an attempt to give one learner an unfair advantage over another.
- **Fraud/impersonation** - actions that are intended to deceive for unfair advantage by violating academic regulations. Using intentional deception to gain academic credit.
- **Contract cheating** - form of academic misconduct in which a person uses an undeclared and/or unauthorised third party to assist them to produce work for academic credit or progression, whether or not payment or other favour is involved. Contract cheating is any behaviour whereby a learner arranges to have another person or entity ('the provider') complete (in whole or in part) any assessment (e.g., exam, test, quiz, assignment, paper, project, problems) for the learner. If the provider is also a student, both students are in violation.

Further examples of the above available at www.tcd.ie/teaching-learning/academic-integrity.

3.1.2 Academic Misconduct in the Context of Group Work

Students should normally submit assessments and/or examinations done in co-operation with other students only when the cooperation is done with the full knowledge and permission of the lecturer concerned. Without this permission, submitting assessments and/or examinations which are the product of collaboration with other students may be considered to be academic misconduct.

When work is submitted as the result of a group project, it is the responsibility of all students in the group to ensure, so far as is possible, that no work submitted by the group is plagiarised, or that any other academic misconduct has taken place. In order to avoid academic misconduct in the context of collaboration and group work, it is particularly important to ensure that each student appropriately attributes work that is not their own. Should a module coordinator suspect academic misconduct in a group assignment, the procedure in cases of suspected academic misconduct must be followed for each student.

3.1.3 Avoiding Academic Misconduct

Students should ensure the integrity of their work by seeking advice from their module coordinator or supervisor on avoiding academic misconduct. All schools and departments must include, in their handbooks or other literature given to students, guidelines on the appropriate methodology for the kind of work that students will be expected to undertake. In addition, a general set of guidelines for students on avoiding academic misconduct is available at libguides.tcd.ie/academic-integrity.

Each coversheet that is attached to submitted work should contain the following completed declaration:

"I have read, and I understand the academic integrity provisions in the General Regulations of the University Calendar for the current year. I have also completed the Online Tutorial on avoiding plagiarism 'Ready Steady Write'.

Please refer to your relevant School/ Department for the format of essay submission coversheets.

For further information including details of the procedure to be followed in case of suspected plagiarism, please refer to Section 1, 'Academic Integrity' (pages 30 & 31) of the Graduate Studies Academic Calendar:

www.tcd.ie/calendar/graduate-studies-higher-degrees/complete-part-III.pdf.

3.1.4 Procedures regarding Dignity & Respect Matters

The School of Social Sciences and Philosophy is committed to fostering a learning environment that upholds principles of equality, diversity, and inclusion. We strive to ensure that all students and staff can pursue their academic and professional goals without fear of discrimination, harassment, bullying, or any form of mistreatment.

Recognizing the adverse impact harassment can have on individuals' performance, morale, confidence, health, and learning, the School seeks to create a culture where such behavior is unequivocally condemned. Our goal is to encourage an atmosphere in which individuals can address harassment concerns without fear of ridicule or retaliation.

[Trinity Dignity and Respect Policy](#) sets out the College's key principles and procedures for addressing matters related to negative treatment, including discrimination, bullying, and any form of harassment. [TCD Sexual Misconduct Policy](#) establishes the principles, approach, and procedures on the subject of sexual harassment or sexual assault and outlines the resources and support available to both students and staff when facing issues related to sexual harassment.

Should any student encounter issues related to dignity and respect, as outlined above, we strongly urge them to immediately reach out for support from the designated contact person, who will provide guidance and support in accordance with the Dignity and Respect Policy:

Course Director Prof Davide Romelli | romellid@tcd.ie

School Director of Teaching and Learning (Post-Graduate) Prof Selim Gulesci | gulescis@tcd.ie

3.2 Research Ethics

We wish to draw your attention to the need for you to comply with the School's research ethics policy. Full details can be found at <http://www.tcd.ie/ssp/research/ethics/>. The most consequential aspect of this is that, should you be planning to observe, interview, poll, or experiment on human beings, you will need to get ethics approval. This involves completing a form that you will find via the link above and then having it approved/signed by the Department's Research Ethics representative. **Failure to comply with the School's research ethics policy could result in penalties, up to and including a zero mark for the dissertation.**

4. Teaching & Learning

4.1 Programme Structure

Assessment on the Diploma-register will be based on coursework and projects. **The pass mark for each module is 50%.** In the calculation of the overall mark for the course, modules are weighted according to their ECTS credit weighting. Students must **achieve an overall mark of at least 50% in each module.**

Students who achieve an **overall average mark of 70% or above** will be awarded a **Distinction**. Students who fail to achieve an average of 50% in each taught module will be allowed to take one supplemental assessment for each failed module during the supplemental examination period. The Supplemental assessment will account for 100% of the module's mark (Coursework marks are not considered part of the module mark at this stage). Supplemental assessment marks are capped at 50%.

4.2 Programme Structure & Workload

The Diploma carries **60 ECTS taught modules**. This one-year program covers a wide range of core modules aimed at equipping students with state-of-the-art applied economics methods.

In their first semester, students will take most of their core modules, i.e. i) Introduction to Statistics and Regression Analysis (delivered during the first two weeks of the semester), ii) Introduction to Big Data for Economics, iii) Microeconometrics, and iv) Machine Learning for Economists, and will be able to validate one of the elective modules.

In their second semester, students will take the Macroeconometrics module and will have the chance to choose various elective modules, drawn from different fields of theoretical and applied economics as well as a module on quantitative text analysis.

All modules are taught around weekly lectures and tutorial sessions and assessed with applied continuous assessments (no exams or final dissertations are required). Students can expect coursework consisting of approximately 6 hours of lecture and 3 hours of tutorials per week. Students are expected to bring their own laptops (Mac/Windows/Linux) for use in lectures and tutorials throughout the course. Tablets are not suitable for this course.

All modules are listed below. Further details on learning outcomes, assessment patterns and other information are provided on the module homepages.

Modules

1. **Introduction to Statistics and Regression Analysis (5 ECTS)** – Core – This module introduces basic concepts of data analysis and statistics with practical applications to economics and policy. The emphasis is on the practical application of quantitative reasoning, visualization, and data analysis. The goal is to provide students with tools for conducting their basic statistical analyses. Topics covered include basic descriptive measures, probability, measures of association, sampling and sample size estimation, and confidence intervals. Assignments are based on real-world data and problems in a wide range of fields.
2. **Introduction to Big Data for Economics (5 ECTS)** – Core – This module will introduce students to the main topics that have been arising around the concept of “Big Data”. With increasing computing and storage capacity, new opportunities and challenges arise for researchers. The goal of this module is to provide an overview of different papers, datasets and techniques, with an emphasis on practical implementation.

3. **Microeconometrics (10 ECTS)** – Core – The aim of this module is to provide students with the skills required to undertake independent applied research using modern econometric methods. The module provides a balance between theoretical and applied econometrics and aims to extend students' understanding of the subject to an advanced level as each part progresses. Students attending this module will deepen their theoretical knowledge of the list of topics above and will develop the necessary practical skills to use these methods in empirical research.
4. **Macroeconometrics (10 ECTS)** – Core – The aim of this module is to provide students with the skills required to undertake independent applied research using modern econometric methods. The module builds on the fundamental concepts developed in Module I and aims to extend students' understanding of the subject to a more advanced level. The module attempts to provide a balance between theory and applied research.
5. **Machine learning for economists (5 ECTS)** – Core – The core objective of this module is to familiarise students with the application of machine learning techniques in economics, focusing on their integration with traditional econometric methods for effective policy analysis and causal inference. The module aims to promote an understanding of the strengths, limitations, and ethical considerations of these techniques, promoting the ability to use and critically evaluate machine learning tools in economic analysis and effectively communicate the results.
6. **Spatial Economics and Big Data (5 ECTS)** – Elective – This module introduces students to key concepts when working with geo-spatial data and will show how they can be used to answer important economic questions across fields such as health, agriculture, urban and energy.
7. **Text analysis for macroeconomic policy (5 ECTS)** – Elective – The learning aims for this module are to empower students with a deep understanding of the methods and techniques specifically tailored for macroeconomic analysis. Students will be trained on how to extract, process, and critically assess text data from statements by policymakers, central bank releases, speeches, and reports. This knowledge will provide unique insights into the relationship between central bank communication and financial markets, macroeconomic sentiment, and policy outcomes. The module seeks to equip students with the ability to integrate these methods into their economic research toolbox, enhancing their capacity to leverage unstructured data for robust economic analysis.

8. **Impact Evaluation and Big Data** (5 ECTS) – Elective – What is impact evaluation? How can we neatly identify the causal impact of a certain program or policy or event on the outcomes of interest? Which tools do we have at our disposal? This module will address these questions, by focusing on the selection problem that typically arises in impact evaluation studies. We will discuss ways in which properly designed studies can address it. We will dedicate the first part of the module to discussing the design of sound experiments (randomized controlled trials). We will then discuss alternative solutions, for settings in which experiments are not feasible and/or desirable. Although the tools studied in this module have a broad application, examples and case studies will be taken mostly from the development economics literature.
9. **Labour markets and Big Data** (5 ECTS) – Elective – The module will cover a range of topic in the field of Labour Economics. The central aim of the module is to understand how labour markets work, and how they are affected by institutions and labour market policies.
10. **Development Economics and Big Data** (5 ECTS) – Elective – The module will cover recent contributions in the field of Development Economics. We will study how informal markets operate in developing countries and we will discuss the functioning of the credit sector, with a detailed analysis of microcredit and its development. Next, we will cover issues related to health, both in terms of demand for health and supply of health in a developing country context. We will then cover recent work conducted in the field of migration, with a focus on the role of information between migrants and their transnational networks. Finally, we will analyse recent contributions on the role of media in development. Throughout the module, there will be a strong emphasis on experimental settings. Active participation of students will be sought.
11. **Environmental Economics and Big Data** (5 ECTS) – Elective – The aim of this module in Environmental Economics and Big Data is to familiarise students with the use of Big Data in addressing critical questions related to environmental economics. Students will explore how this extensive data can be effectively used for studying and solving complex issues such as climate change, the transition to a zero-carbon economy, and energy economics. The module aims to equip students with the skills and understanding necessary to harness big data's potential in environmental economic research and policy-making, promoting a data-driven approach to sustainable economic development.

12. **Financial Markets and Big Data** (5 ECTS) – Elective – The learning aims of this module in Financial Markets and Big Data are to enable students to understand the relationship between pricing and risk in traditional assets as well as in emerging financial entities like cryptocurrencies, NFTs, and digital currencies. The module intends to equip students with the ability to leverage Big Data for comprehensive analysis of these markets, enhancing their understanding of pricing mechanisms and risk assessment. Through this module, students will gain insights into the integration of Big Data in financial markets, fostering a data-driven approach in their financial research and market strategy planning.
13. **Quantitative Text Analysis for Social Scientists** (5 ECTS) – Elective – This module focuses on a range of computational tools - stemming from the fields of machine learning and natural language processing (NLP) - that are essential for large-scale analyses of text information. The aim is to provide students with a hands-on introduction to collecting, processing, and analysing “text-as-data” for the purpose of answering important social science research questions. The module will also cover corpus acquisition methods as well as social media research applications. Students will apply these skills to produce state-of-the-art analyses based on a novel collection of text documents and meta-data.
14. **International Banking, Cryptocurrencies and Big Data** (5 ECTS) – Elective – How does money move across borders? Can cryptocurrencies and blockchain technology disrupt the international payment system? This module introduces students to the operations of global banks and the management of global liquidity and international monetary spillovers. Key topics include the utilization of Big Data by global banks for monitoring cross-border payments and by regulators for assessing international financial stability. The module discusses the latest innovations in cross-border payments, including the impact of the development of fintech and cryptocurrencies. Students will learn practical skills for analyzing banking data and collecting big data on the blockchain to study transactions in cryptocurrencies.
15. **Computational Methods for Economics** (5 ECTS) – Elective – Computational methods are used across every field of economics. This module serves as an introduction to some commonly used methods in Computational Economics. The primary aim is to equip students with the fundamentals needed for a wide range of applications. We will begin with some basics about programming fundamentals and setting up a python environment. We will then study some important numerical methods used in quantitative economics and put them to use simulating economic models.

4.3 Learning Outcomes

The Diploma aims to provide well-qualified graduates in economics and related disciplines with the training required to enter MSc programmes in economics or to work as economists in government, non-governmental, or private sector organisations. The course focuses on the core technical skills needed to analyse economic data and implement informed economic strategies while working with big data.

There are five Course Learning Outcomes (CLOs). By successfully completing this course, graduates should:

- CLO1 Acquire a comprehensive knowledge of the fundamental principles of modern applied economics with big data, demonstrated by the ability to explain key concepts, theories, and methodologies used in the field.
- CLO2 Exhibit a deep understanding of the specific methods used in big data analysis in economics, including but not limited to panel data, spatial data, and household survey data. This understanding should be evident through the student's ability to explain these methods, identify their appropriate use cases, and articulate their benefits and limitations.
- CLO3 Demonstrate an ability to collect, analyse and interpret data to address policy relevant research questions.
- CLO4 Critically engage with, evaluate, and appraise applied economics literature.
- CLO5 Demonstrate the ability to efficiently manage and manipulate large datasets using advanced data management techniques, specifically leveraging programming languages like Python, R, or STATA for data cleaning, manipulation, and analysis.

4.4 Module Descriptors & Compulsory Reading Lists

The School reserves the right to amend the list of available modules and, in particular to withdraw and add modules. Timetabling may restrict the availability of modules to individual students.

Module descriptors and timetables will be available on the Departmental website shortly before the start of each term: <https://www.tcd.ie/Economics/postgraduate/dip-aebd/>

4.5 Coursework Requirements

Please consult module outlines for coursework requirements. Relevant submission information will be provided by the module lecturers.

4.6 Marking Scale

The Diploma uses the following grading scheme for overall module assessment:

- Excellent: 70 – 100
- Good: 60 – 69
- Fair: 50- 59
- Fail: 0 – 49

The final mark for the course is based on a credit-weighted average of the mark awarded in each module. The Diploma is awarded in accordance with University convention as either Pass or Distinction.

4.7 Attendance Requirements

Attendance is not optional. Absences should be cleared with the relevant instructor, who should be provided with a medical certificate or other documentation as appropriate.

See Part III of the Calendar for College regulations regarding attendance and 'Off-Books' status: <https://www.tcd.ie/calendar/>

4.8 External Examiner

The External Examiner for the Diploma is Prof. Hamza Bennani (University of Nantes, France).

4.9 Progression Regulations

See Part III of the College Calendar for full details of College regulations regarding Progression: <https://www.tcd.ie/calendar/>.

4.9.1 Appeals

See Part III of the College Calendar for full details of College regulations regarding Academic Appeals: <https://www.tcd.ie/calendar/>.

4.10 Transcripts

Transcripts are available on request to the Programme Administrator at dip.aebd@tcd.ie. Please include your student number and course when requesting a transcript. Transcripts are never issued to a third party, such as a parent or prospective employer without the consent of the person named on the transcript.

4.11 Careers Information & Events

The Careers Advisory Service (CAS) provides a wide range of resources and services to help you make and implement informed choices about your future career direction. The Careers Information Centre at 7-9 South Leinster Street contains a range of free, career-related booklets and employer materials for you to take away. Online, the resources section of the website (www.tcd.ie/Careers/resources) provides useful information on a range of topics from career choice and planning, to working abroad, taking a year out and everything in between. CAS also provides a MyCareer online service. More information is available [here](#).

4.12 Student Feedback & Evaluation

Evaluation of courses and their constituent modules is an important component of the College's commitment towards improving the quality of teaching and the support of learning. To this end, all modules that are taught by the School of Social Sciences and Philosophy are evaluated on a twice-yearly basis using an online survey. The survey is anonymous, and the results are used in reviewing and improving aspects of each module and its delivery. We particularly want to hear what students think was good about a module and what needs to be improved. Student feedback forms an important part of the evaluation and review process.

All results for each survey are collated and made available to the lecturer who taught the module, the Head of Department, the Head of School, the School's Director of Teaching and Learning (UG/PG), and the School Manager. Teaching Assistants receive their feedback through communication with the course lecturer.

Studies have shown that there is some gender bias in student evaluations of teaching – namely that female lecturers tend to receive more negative evaluations than their male counterparts. We ask you to bear this in mind when making your evaluations.