



TECHNICAL SHEET OF THE SUBJECT

Data of the subject	
Subject name	Analítica de Datos para la Gestión del Talento/People Analytics
Subject code	E000014018
Main program	Grado en Análisis de Negocios / Business Analytics por la Universidad Pontificia Comillas
Involved programs	Grado en Análisis de Negocios/Bachelor in Business Analytics y Grado en Relaciones Internacionales [Third year] Grado en Análisis de Negocios/Bachelor in Business Analytics [Third year] Grado en Admin. y Dirección de Emp. y Grado en Análisis de Negocios/Bachelor in Business Analytics [Third year] Grado en Ing. en Tecnologías de Telecom. y Grado en Análisis de Negocios/Bachelor in Busi. Analytics [Third year]
Level	Reglada Grado Europeo
Quarter	Semestral
Credits	6,0 ECTS
Type	Obligatoria (Grado)
Department	Departamento de Gestión Empresarial
Coordinator	María Jesús Belizón Cebada
Course overview	Data Analytics for Talent Management/People Analytics (6 ECTS) aims to strengthen decision-making in people management throughout the employee lifecycle, based on the analysis of data on an organisation's workforce. This will enable managers to solve problems related to this function, using data as a key driver. People Analytics is the discipline that, using employee data and statistical techniques, extracts valuable insights for the business, enabling better business decisions to be made based on the skills and patterns of employees and their professional networks. By applying HR metrics professionally, companies can gain a competitive advantage over other companies that have not yet begun to use People Analytics.

Teacher Information	
Teacher	
Name	María Jesús Belizón Cebada
Department	Departamento de Gestión Empresarial
E-Mail	mjbelizon@comillas.edu
Teacher	
Name	Jesús García Romanos
Department	Departamento de Gestión Empresarial
E-Mail	jgromanos@icade.comillas.edu

SPECIFIC DATA OF THE SUBJECT

Contextualization of the subject



Contribution to the professional profile of the degree

The course *Data Analytics for Talent Management / People Analytics* (6 ECTS) aims to strengthen decision-making in people management throughout the employee lifecycle by analyzing workforce data within an organization. This enables managers to address HR-related problems using data as a key driver.

People Analytics is the discipline that uses employee data and statistical techniques to extract valuable business insights, allowing better business decisions based on employees' skills, behavioral patterns, and professional networks. When applied professionally, HR metrics can provide companies with a competitive advantage over others that have yet to engage in this field.

This course is designed for students of the Business Analytics degree. Assuming prior knowledge of data analysis techniques, it focuses on offering students a humanistic view of using data analytics for people management—one that goes beyond technical competence and supports solid decision-making within ethical boundaries, aiming to generate positive impact for all stakeholders.

Key Learning Questions

1. How can People Analytics contribute to strategic decision-making in talent management and the achievement of business objectives?
2. What are the main challenges in implementing People Analytics in a company, and what factors can accelerate its adoption?
3. What types of HR problems can be addressed using data, and how can relevant analytical questions be formulated to solve them?
4. How do technology and HR systems (HRIS, ATS, LMS) influence the collection, analysis, and use of data for People Analytics?
5. How can data visualization and storytelling enhance the communication of insights in people management?
6. What is the impact of People Analytics on the employee lifecycle, from recruitment to retention and talent development?
7. What are the main ethical and regulatory risks in using People Analytics, and how can they be mitigated to ensure responsible data management?

Competencies - Objectives

Competences

Learning outcomes

RA1	Analítica de Datos para la Gestión del Talento/People Analytics (6 ECTS). RA1 Diseñar un Departamento de RR HH, explicitando la estructura y funciones básicas del mismo para empresas que operan en un contexto digitalizado, global y sostenible, la dependencia jerárquica y funcional dentro de la estructura organizativa, el perfil del director y el equipamiento humano y material necesario.
RA2	Analítica de Datos para la Gestión del Talento/People Analytics (6 ECTS). RA2 A partir de la analítica de los datos y de las métricas de RRHH, tomar decisiones acertadas sobre las políticas estratégicas y tácticas de gestión de personas en las organizaciones.
CN1	Reconoce en la naturaleza propia de la analítica de negocio, de sus conceptos y de sus herramientas esenciales (análisis estadístico y cuantitativo, modelos exploratorios y predictivos y sistemas de información), el valor que supone en términos de optimización para la organización, las oportunidades derivadas de la información para apoyar la toma de decisiones directivas.



HA1

Aplica las herramientas de apoyo al directivo en el proceso de diagnóstico previo a la toma de decisiones estratégicas, atendiendo especialmente a escenarios de cambios y transformación en entornos globales y digitalizados.

THEMATIC BLOCKS AND CONTENTS

Contents - Thematic Blocks

Module 1: Introduction to People Analytics and HR Decision Making

- Concept, components and evolution of People Analytics
 - Creating a People Analytics team: skills and management
 - Implementing and managing People Analytics: challenges and accelerators
 - Success stories from leading companies

Module 2: Fundamentals of Data Analysis in HR

- HR problems addressed through People Analytics
 - Formulating relevant questions for HR and business
 - Types of data in talent management
 - HR metrics (KPIs, OKRs)
 - Key business metrics in People Analytics
 - Importance of data quality

Module 3: HR Technology and Systems

- Use of technology and AI in HR: process automation vs. insight generation
 - Data systems in HR: HRIS, ATS, LMS, etc.
 - Technology integration in HR: challenges and accelerators
 - Internally developed People Analytics solutions
 - Self-reports and dashboards
 - Use of AI algorithms in HR

Module 4: Practical Applications of People Analytics in the Employee Lifecycle

- Data-driven recruitment and selection
 - Performance analysis and management
 - Turnover prediction and retention improvement
 - Analytics to improve employee well-being and engagement
 - Analytics for diversity and inclusion

Module 5: Impact of People Analytics

- Action plans based on data insights
 - Operational impact of People Analytics
 - Impact on the continuous improvement of HR practices and processes
 - Strategic impact of People Analytics

Module 6: Ethics, Privacy and Regulatory Compliance in People Analytics



COMILLAS

UNIVERSIDAD PONTIFICIA

ICAI

ICADE

CIHS

Syllabus
2025 - 2026

- The ethical importance of human judgement in people management decision-making
 - Regulations on the use of AI and algorithms in companies
 - Data protection and privacy regulations (GDPR, LOPD)
 - Transparency and ethics in the use of employee data
 - How to prevent algorithmic discrimination in HR

TEACHING METHODOLOGY

General methodological aspects of the subject

This course is designed for students completing a degree in Business Analytics. Building on prior knowledge of data analysis techniques, it focuses on providing students with an integrative and humanistic view of the use of data analytics for people management: one that goes beyond technical competence and supports sound decision-making within ethical boundaries, with the aim of generating a positive impact for all stakeholders.

Classes on the thematic blocks will be combined with practical sessions in which statistical techniques will be applied with the aim of shedding light on and providing solutions to specific problems that arise in people management.

In-class Methodology: Activities

Traditional lectures in which the teacher will present the main content in a clear, structured and motivating way, usually supported by various audiovisual resources. Essential aspects will be highlighted to facilitate the student's personal learning work and, finally, students' suggestions and questions will be addressed and collected. Learning is the student's responsibility and no teacher can replace it. In lectures, teachers will limit themselves to developing the content they consider most important and/or most difficult to understand. Students must have studied the topics before they are presented in class. To check that students have fulfilled their obligation, teachers may set short exercises before the topics are presented. They may also set these exercises at the end of the class to check students' understanding of the different content.

Interactive lectures. Lectures in which the teacher explains the basic concepts, with the active and collaborative participation of the students, who discuss and debate any unclear points or nuances that they consider relevant to a proper understanding of the content. This will include dynamic presentations and structured or spontaneous participation by students through a variety of activities. It will also include forums with audiovisual materials. (The first few minutes of the class are used to place what is going to be taught within the general framework of the subject, relating it to previous sessions. The objective of the lesson to be taught is discussed (what is the purpose of what we are going to see?), followed by an explanation of the essential theoretical concepts that will be used and their practical applications in business).

Public presentation of topics or assignments. Presentation and defence before the teacher and the rest of the class. This may be done individually or in groups. The following will be assessed: conceptual organisation, mastery of the subject matter, clarity of presentation, respect and rationality of the different phases and, in the case of group work, the active collaboration of each member of the team.

Non-Presential Methodology: Activities

Individual study and expansion of the documentation that students produce in order to understand, rework and retain scientific content with a view to possible application in their professional field. Individual reading of texts (bibliography) and notes of various kinds (books, journals, individual articles, newspapers, online publications, reports on practical experiences, etc.) related to the subjects studied. Students can find documentation, session materials and practical exercises on the University's Resource Portal.

Individual or small group academic tutoring to resolve any problems that may have arisen in the course of learning the subject or in the



process of acquiring the corresponding skills, as well as to supervise the student's progress in their work.

Group work. A cooperative learning procedure that begins with the assignment of students to teams and the setting of a task that requires research and the sharing of information and resources among team members in order to achieve a common goal. Individual goals are achieved if and only if others achieve theirs, so there is a high degree of personal interdependence in the achievement of goals.

Organised reading. Reading and analysis of relevant texts with various tasks that assess reading comprehension individually or in groups.

SUMMARY STUDENT WORKING HOURS

CLASSROOM HOURS		
Lecciones de carácter expositivo	Exposición pública de temas o trabajos	Ejercicios y resolución de casos y de problemas
26.00	8.00	22.00
NON-PRESENTIAL HOURS		
Sesiones tutoriales	Estudio y lectura organizada	Trabajos monográficos y de investigación, individuales o colectivos
30.00	60.00	30.00
ECTS CREDITS: 6,0 (176,00 hours)		

EVALUATION AND CRITERIA

The use of AI to produce full assignments or substantial parts thereof, without proper citation of the source or tool used, or without explicit permission in the assignment instructions, will be considered plagiarism and therefore subject to the University's General Regulations.

Evaluation activities	Evaluation criteria	Weight
End-of-Term Examination. Multiple-choice end-of-term examination (MCQ) on the theoretical and practical knowledge covered in the course. The final examination must be passed in order to pass the course as a whole.	This exam will consist of approximately 60 multiple-choice questions, with four answer options and only one correct answer. The exam will last 60 minutes and will be held in the school's computer rooms, specifically on computers equipped with NETOP, our online exam monitoring software.	50 %
Attendance and Participation. This assessment method combines class attendance, which will be recorded regularly and rigorously by the teacher, as well as the student's overall participation in class, their attitude in class towards the teacher and classmates, and the quality of their contributions.	Attendance will account for 10% and participation as well as student engagement for 5%. The general regulations of Comillas Pontifical University state the following: 'Absence from more than one-third, or even a smaller number if so established in the academic regulations of the Centre, of the contact hours in each subject may result in the student being unable to sit the exam for that subject in the ordinary examination period of the same academic year'.	15 %



<p>Mid-term exams. Throughout the semester, to facilitate student study and as preparation for the final exam, multiple-choice mid-term exams (MCQ) consisting of 10-15 questions will be held. These mid-term exams will take place once each topic has been completed, with sufficient time allowed for study.</p>	<p>The degree of theoretical and applied knowledge of the content presented in each topic of the course will be assessed.</p>	<p>15 %</p>
<p>Group work (use cases). Throughout the semester, students will work on different People Analytics use cases, which they will have to submit for assessment. These use cases will be worked on in groups.</p>	<p>The assessment criteria for use cases are as follows:</p> <ul style="list-style-type: none">• Accuracy and completeness of the response to the statement provided by the teacher. Statistical rigour. Presentation of data analysis. Provision of practical, actionable and viable conclusions and solutions for problem solving based on the data.	<p>20 %</p>

Ratings

NORMAS GENERALES DE LA ASIGNATURA

GENERAL RULES TO BE OBSERVED IN THE DEVELOPMENT OF LEARNING ACTIVITIES

For the purposes of the normal development of classroom work sessions, the teaching team for this subject values students maintaining an active attitude of listening and participation, which encourages connection with the reflections shared around the subject content. In this regard, the use of electronic devices outside of the times expressly reserved for this purpose in the context of the class will be viewed negatively. Likewise, it should be noted that plagiarism will be penalised in accordance with the provisions of the University's General Regulations, article 168.2.e: 'actions aimed at falsifying or defrauding academic performance assessment systems.' Plagiarism will be considered to exist when: No bibliographical references are included and the sources consulted for the preparation of the work are not properly cited (whatever the source, it must always be cited). There is no clear difference between the original information and the reworking carried out by the person presenting the work. Some words in the original text are replaced without any real reformulation of the content.

With regard to the use of generative artificial intelligence (AI) tools, their misuse will be considered a serious offence, according to the University's General Regulations, Article 168.2.e: 'carrying out actions aimed at falsifying or defrauding academic performance assessment systems'. Any fraudulent or undeclared use of artificial intelligence in unauthorised tasks, especially in final submissions or individual assessments, will be considered a serious breach of academic honesty. The consequences of this, after evidence has been found and the corresponding disciplinary proceedings have been opened, will be a fail mark (0) in the subject and the inability to sit the next exam in that subject. In the case of group work, please note that the detection of misuse of these tools will result in the application of the corresponding sanctions (art. 168.2.e of the University's General Regulations) to all members of the group.

The specific conditions for the use of AI for each phase of the teaching-learning process in the People Analytics course are detailed below:

Specifically, Level 2 of the AI Assessment Scale (Perkins, Furze, Roe & MacVaugh, 2024), corresponding to the AI Planning category, will be applied in the People Analytics course. Specifically, the use of artificial intelligence tools (e.g., Elicit, ChatGPT, Scholar AI, or LMNobook) is authorised exclusively in specific and initial phases of the different group work processes, related to the preliminary search for information to develop initial questions and hypotheses, generate ideas, facilitate the understanding of complex texts, and design presentations for the



communication of results.

Teachers may require partial submissions of the work carried out, as well as an oral defence of the projects, in order to verify the actual authorship of the content and ensure learning by the group. For tasks where the use of AI is permitted, students must clearly and thoroughly document:

- The name of the tool used (e.g., GPT, Elicit, Scholar AI);
The prompt or query made;
The section of the work in which AI was used;
How the generated content was reformulated or reworked.

IMPORTANT: AI-generated text may not be incorporated directly into final assessable products. AI can be used as a support tool during the development process, but it cannot replace one's own academic work. The aim of this approach is for students to develop not only technical skills in the use of AI tools, but also critical, ethical and reflective skills for their application in the academic and professional fields of PEOPLE ANALYTICS.

EVALUACIÓN EN CONVOCATORIA ORDINARIA

In order to pass the course in the regular examination period, students must successfully complete each and every one of the assessment activities listed in this guide.

Activities that are NOT submitted under the exact conditions of place, date and time scheduled and communicated at the beginning of the course/semester in the course schedule will NOT be taken into account for grading purposes.

EVALUACIÓN EN CONVOCATORIA EXTRAORDINARIA

Students exempt from tuition fees: exchange students:

1. It is the student's sole responsibility to take advantage of this curricular adaptation and to communicate their situation by email to the corresponding teacher during the first month of the academic year.
2. Ordinary theoretical-practical exam worth 100%. To optimise their results in this exam, students will find the relevant documentation in the space reserved for the subject on the Moodle platform.
3. If the exchange student has not taken the subject abroad, they must take the exam under the same conditions as if they had failed the subject or not taken it (third scenario in the following case).

Students who have failed the ordinary exam session:

1. Students who have failed the exam but passed the rest of the elements: Two-part exam: they will retake the final multiple-choice exam (and the average will be calculated with the rest of the course marks (50%)).
2. Students who have not passed any of the other assessment elements but have passed the exam: They must submit the relevant work established by the subject teacher to compensate for this gap, subject to validation by the subject coordinator.
3. Students who have not passed any of the assessment elements, either by failing the exam or by not sitting it: Individual monographic project (30%) and public defence of the project before a panel made up of the teacher and other members of the teaching team (20%) = 50%. Multiple-choice final exam = 50%.

BIBLIOGRAPHY AND RESOURCES

Basic Bibliography

Edwards, M. R. (2025) Using R for HR Analytics. Kogan Page: London, United Kingdom.



Edwards, M. R. and Edwards, K. (2024) *Predictive HR Analytics: Mastering the HR Metric*. Kogan Page: London, United Kingdom.

Bondarouk, T. & Fisher, S. (2020) *Encyclopedia of Electronic HRM*. De Gruyter Odeburg: Berlin, Germany.

Martens, D. (2022) *Data Science Ethics: Concepts, Techniques and Cautionary Tales*. Oxford University Press: Oxford, United Kingdom.

Coeckelbergh, M. (2020) *AI Ethics*. The MIT Press: Cambridge, MA.

Complementary Bibliography

Angrave, D., Charlwood, A., Kirkpatrick, I., Lawrence, M., & Stuart, M. (2016). HR and analytics: why HR is set to fail the big data challenge. *Human Resource Management Journal*, 26(1), 1-11.

Aral, S., Brynjolfsson, E. & Wu, L. (2012) Three-way complementarities: performance pay, human resource analytics, and information technology. *Management Science*, 58(5), 913-931.

Bechter, B., Brandl, B. & Lehr, A. (2022) The role of the capability, opportunity, and motivation of firms for using human resource analytics to monitor employee performance: a multi-level analysis of the organisational, market, and country context. *New Work and Employment*, 37(3), 398-424.

Belizon, M.J. & Kieran, S. (2022) Human resources analytics: a legitimacy process. *Human Resource Management Journal*, 32(3), 603-630.

Belizon, M.J., Majarín, D. & Aguado, D. (2024) Human resources analytics in practice: A knowledge discovery process. *European Management Review*, 21(3), 659-677

Boudreau, J., & Cascio, W. (2017). Human capital analytics: why are we not there? *Journal of Organisational Effectiveness: People and Performance*, 4(2), 119-126.

Ellmer, M. & Reichel, A. (2021): Staying close to business: The role of epistemic alignment in rendering HR Analytics outputs relevant to decision-makers. *The International Journal of Human Resource Management*.

Fu, N., Keegan, A. & McCartney, S. (2022) The duality of HR analysts' storytelling: showcasing and curbing. *Human Resource Management Journal*, 33(2), 1-26.

Greasley, K., & Thomas, P. (2020). HR analytics: The onto -epistemology and politics of metricised HRM. *Human Resource Management Journal*, 39(2), 1-14.

Levenson, A. & Fink, A. (2017) Human capital analytics: too much data and analysis, not enough models and business insights. *Journal of Organizational Effectiveness: People and Performance*, 4(2), 145-156.

Levenson, A. (2018) Using workforce analytics to improve strategy execution. *Human Resource Management*, 57(3), 685-700.

Minbaeva, D.B. (2018) Building credible human capital analytics for organizational competitive advantage. *Human Resource Management*, 57(3), 701-713.

Simón, C., & Ferreira, E. (2018). Workforce analytics: A case study of scholar-practitioner collaboration. *Human Resource Management*, 57(3), 781-793.

Tursunbayeva, A., Pagliari, C., Di Lauro, S. & Antonelli, G. (2022) The ethics of people analytics: risks, opportunities and recommendations. *Personnel Review*, 51(3), 900-921.



COMILLAS

UNIVERSIDAD PONTIFICIA

ICAI

ICADE

CIHS

Syllabus
2025 - 2026