National Taiwan Normal University Online Course Teaching Plan

Instructions: According to **Article 6 of the Implementation Regulations Regarding Distance Learning by Universities**, Departments/Programs offering distance learning courses, shall present a course plan and submit it for approval by the university-level academic affairs committee. The course plan referred to in the preceding paragraph shall set forth learning objectives, the target student group, a course outline, teaching methods, interactive student-teacher discussion, grading and course requirements. The course plan shall be posted on the Internet.

1. Chinese Course Name: 人員數據分析

2. English Course Name: Studies in People Analytics

3. Course start date: Spring (Fall, Spring, or Summer) semester of 2026 (yyyy)

4. Course review submission record(■ if applicable):

■(1) **It is a new online course or an existing face-to-face course switching to online course in this semester (University's Course Committee approval in the Fall semester of 2025)**

□(2) **It is an existing online course; the latest University's Course Committee approval was in the ____ semester of ____ (academic year)**

□(2.1) **The 5-year validity period has expired; a new application is required.**

□(2.2) **In case of a major change in the original approved course or if the revision ratio exceeds 30%, reapplication is required.**

5. Basic Course Information (■ if applicable)

(1)	Instructor Name & Title	Hung-Yue Suen & Professor/ 孫弘岳教授
(2)	Instructor Sources	■Appointed by Departments □Appointed by General Education Center □Both of Above □Others:
(3)	College/Department/Center	Technology Application and Human Resource Development
(4)	School System	□Undergraduate Program □Master's Program ■BA/MA Joint Course □MA/PhD Joint Course □PhD Program □Continuing Education Master's Program
(5)	Program Type	■Full-time Program □Part-time Program □Others:
(6)	Course Type	■Common Courses □General Courses □School Required Courses □Professional Courses □Educational Courses □Other:
(7)	Required Courses	□University-required □College-required □Graduate Institute-required ■Department-required □Others:
(8)	Course Duration	■One Semester (half year) □Two Semesters (one year) □Others:
(9)	Required/Elective Course	□Required □Elective ■Others: Required for undergraduates and elective for graduates.
(10)	Course Credits	3

(11)	Average of Face-to-Face Teaching Hours Per Week	0.9375 hour(s)/week (Divide the total "face-to-face teaching" hours, including the hours of face-to-face teaching and synchronous teaching, by the total number of course weeks.)
(12)	Number of Classes	1
(13)	Estimated Total Number of Students	50
(14)	EMI Courses	■Yes □No
(15)	Type of Cooperation with Domestic/Foreign Universities (omit if inapplicable)	1. Cooperative University:_____; Department/Institute: _____ Instructor Name:_____; Course Name: _____; Number of Students:_____ 2. □Partner University □Dual-Degree Program □Global Virtual Classroom Course □Others: _____
(16)	Course Platform Website (asynchronous teaching is required)	NTNU online learning platform: https://moodle.ntnu.edu.tw/
(17)	Syllabus Website	http://courseap.itc.ntnu.edu.tw/acadmOpenCourse/index.jsp

6. Course Teaching Design and Implementation Method

(1)	Course Goals	This course, encompassing Workforce, HR, and broader People Analytics, equips students with essential data analytics and visualization skills to drive business outcomes. Using tools like Excel, Power BI, and Auto Machine Learning (ML), learners will explore diagnostic, predictive, and prescriptive analytics to uncover workforce trends, optimize talent strategies, and support data-driven organizational decisions.
(2)	Target Student Group	This course is an elective for graduate students and a required course for undergraduate students in Learning Technology or Human Resources Technology programs.
(3)	Prerequisite(s)	Students must have completed a related Human Resources course, relevant research, or internship experience before enrolling.

(4) Course Content Outline:

Week	**Topics** (If there are multiple instructors, please specify instructor names in each week)	**Learning Objectives** (From the perspective of students)	**Teaching Interactive Design** (Multiple choices allowed)	**Testing/Evaluation Activities** (Multiple choices allowed. Choose "None" if not designed for the week.)	**Teaching Method and Hours** (fill-in the number of hours, omit if none)		
					Face-to-Face Teaching	**Distance learning**	
						Synchronous	**Asynchronous**
1	Introduction to the Course Syllabus	1. Understand Learning Objectives and Scope. 2. Understand assessment criteria and expectations.	□Topic discussion □Group discussion □Peer review	□Tests □Assignments □_____ exam	3		

				3. Understand how to navigate digital materials and resources.	■Instructor feedback ☐Others:_____	☐_____ report ☐Others:_____ ■None			
		2	Data Analytics through Case and Film Study	1. Understand the core concept of data-driven decision making through the case of Moneyball 2. Understand key insights from the live case study and relate them to HR practices 3. Understand how data can challenge traditional decision-making and influence strategic thinking	☐Topic discussion ☐Group discussion ☐Peer review ■Instructor feedback ☐Others:_____	■Tests ☐Assignments ☐_____ exam ☐_____ report ☐Others:_____ ☐None		3	
		3	Essentials of People Analytics	1. Understand people analytics implementation. 2. Understand how to use data analysis tools. 3. Understand real-world business cases for people analytics.	☐Topic discussion ☐Group discussion ☐Peer review ■Instructor feedback ☐Others:_____	■Tests ☐Assignments ☐_____ exam ☐_____ report ☐Others:_____ ☐None			3
		4	HR Data Cleaning and Numeralization	1. Understand types of HR data. 2. Apply Excel functions to clean and convert data. 3. Apply a fully numeric dataset for analysis. 4. Apply CORREL() to examine relationships between variables.	■Topic discussion ☐Group discussion ☐Peer review ☐Instructor feedback ☐Others:_____	■Tests ☐Assignments ☐_____ exam ☐_____ report ☐Others:_____ ☐None			3
		5	Descriptive Analytics	1. Apply compare mean, median, and mode in different distributions. 2. Apply the calculation of percentile ranks to understand data position. 3. Apply geometric and harmonic means for analyzing growth and efficiency.	■Topic discussion ☐Group discussion ☐Peer review ☐Instructor feedback ☐Others:_____	■Tests ☐Assignments ☐_____ exam ☐_____ report ☐Others:_____ ☐None			3
		6	Data	1. Understand how to choose the right chart types	■Topic discussion ☐Group discussion	■Tests ☐Assignments			3

			Visualization	to present comparisons, proportions, and trends. 2. Create and format charts (e.g., bar, pie, line, scatter, bubble) using Excel tools 3. Apply to enhance chart readability through the proper use of axes, labels, and layout design.	☐Peer review ☐Instructor feedback ☐Others:_____	☐_____ exam ☐_____ report ☐Others:_____ ☐None			
		7	Categorical and Group Difference Analysis	1. Apply to analyze group differences using chi-square test for categorical data 2. Apply to compare means across multiple groups using one-way ANOVA. 3. Apply to use GenAI tools to support statistical testing and interpretation.	■Topic discussion ☐Group discussion ☐Peer review ☐Instructor feedback ☐Others:_____	■Tests ☐Assignments ☐_____ exam ☐_____ report ☐Others:_____ ☐None			3
		8	Pre–Post Comparison and Outcome Analysis	1. Apply to analyze differences in outcomes before and after an intervention 2. Apply to use regression models to explain how different variables relate to outcome changes. 3. Apply to interpret the influence of each variable while controlling for prior conditions.	■Topic discussion ☐Group discussion ☐Peer review ☐Instructor feedback ☐Others:_____	■Tests ☐Assignments ☐_____ exam ☐_____ report ☐Others:_____ ☐None			3
		9	People Analytics Exercise I	1. Evaluate the effectiveness of different recruitment channels based on employee outcomes. 2. Analyze the accuracy of selection tools by examining their relationship with job performance. 3. Evaluate whether interviewers make accurate evaluations and demonstrate potential bias	■Topic discussion ☐Group discussion ☐Peer review ☐Instructor feedback ☐Others:_____	■Tests ☐Assignments ☐_____ exam ☐_____ report ☐Others:_____ ☐None			3

				in their ratings.				
		10	People Analytics Exercise II	1. Analyze the characteristics of high-potential employees. 2. Evaluate the fairness and consistency of compensation across roles or performance levels.	■Topic discussion ☐Group discussion ☐Peer review ☐Instructor feedback ☐Others:_____	■Tests ☐Assignments ☐_____ exam ☐_____ report ☐Others:_____ ☐None			3
		11	People Analytics Exercise III	1. Analyze HR data to determine the key factors influencing employee performance. 2. Evaluate the effectiveness of development interventions by comparing pre-- and post-intervention outcomes. 3. Apply HR data to estimate employee engagement scores.	☐Topic discussion ☐Group discussion ☐Peer review ■Instructor feedback ☐Others: _____	■Tests ☐Assignments ☐_____ exam ☐_____ report ☐Others:_____ ☐None			3
		12	Predictive Modeling	1. Apply machine learning models to predict employee retention outcomes. 2. Analyze HR data to identify and predict high-potential talent. 3. Evaluate multiple machine learning algorithms and justify the selection of the most appropriate one for accurate HR prediction.	■Topic discussion ☐Group discussion ☐Peer review ☐Instructor feedback ☐Others:_____	■Tests ☐Assignments ☐_____ exam ☐_____ report ☐Others:_____ ☐None			3
		13	People Insight Discovery with Power BI	1. Create interactive charts to compare employee inflow and attrition across time and recruitment sources. 2. Analyze visual patterns to evaluate the effectiveness of different recruitment channels on employee performance.	■Topic discussion ☐Group discussion ☐Peer review ☐Instructor feedback ☐Others:_____	■Tests ☐Assignments ☐_____ exam ☐_____ report ☐Others:_____ ☐None			3

				3. Understand decomposition trees to identify the key factors affecting performance, engagement, and turnover.					
		14	Applying AutoML for HR Modeling	1. Understand the workflow of AutoML for HR data analysis. 2. Apply AutoML tools to build predictive models for HR scenarios such as turnover and performance. 3. Analyze model results to interpret the influence of different HR variables.	■Topic discussion □Group discussion □Peer review □Instructor feedback □Others:_____	■Tests □Assignments □_____ exam □_____ report □Others:_____ □None		3	
		15	Presenting and Reflecting on AutoML-based HR Models	1. Create and present an AutoML-based HR model. 2. Evaluate peer-generated models based on relevance, accuracy, and interpretability 3. Analyze modeling choices and feedback to improve future HR analytics projects	■Topic discussion □Group discussion □Peer review □Instructor feedback □Others:_____	□Tests ■Assignments □_____ exam □_____ report □Others:_____ □None		3	
		16	Individual Consultations and Learning Reflection	1. Understand key concepts and clarify questions related to data analytics covered throughout the semester. 2. Apply instructor feedback to improve analytical thinking or project outcomes.	□Topic discussion □Group discussion □Peer review ■Instructor feedback □Others: _____	□Tests □Assignments □_____ exam □_____ report □Others:_____ ■None	3		
(5)	Teaching Methods	(■ if included; multiple choices allowed) ■ 1. Provide primary and supplementary materials for online courses ■ 2. Provide face-to-face teaching, number: 2 time(s), total hour(s): 6 hour(s) ■ 3. Provide synchronous teaching, number: 3 time(s), total hour(s): 9 hour(s) ■ 4. Provide asynchronous teaching, number: 11 time(s), total hour(s): 33 hour(s) ■ 5. Provide topic discussion activities ■ 6. Provide cooperative learning activities between students								

		■ 7. Mutual learning through students' works ■ 8. Others: (Online Mock Exam for the global HR certification)
(6)	Learning Management System (moodle)	Which moodle functions are used in this course? (■ if included; multiple choices allowed) Note: For teachers and students from domestic or foreign universities who are participating in joint programs that require access to Moodle, please have the course instructor contact the platform manager at extensions 5673 or 5579. E-mail: elearn@ntnu.edu.tw ■ 1. Personal data ■ 2. Course information ■ 3. Latest News release & browse ■ 4. Course materials viewing & download ■ 5. Grade system management & inquiry (omit if inapplicable) ■ 6. Perform online testing (omit if inapplicable) ■ 7. Learning information ■ 8. Interactive learning design (chat room or discussion area) □ 9. Other related functions: (please specify)
(7)	Public Information about Interactive Teaching	Instructor Profile and Published Works: https://scholar.lib.ntnu.edu.tw/en/persons/hung-yue-suen
		Instructor E-mail: collin.suen@ntnu.edu.tw
		Online Office Hours (at least 1 hour per week): 1630-1730 (Mon)
		Teaching Assistant's Name/E-mail (omit if inapplicable): christine.chg.twn@gmail.com
		Others(omit if inapplicable):
(8)	Course Material Production	(■ if included; multiple choices allowed) ■ 1. Provide appropriate reminders of key points ■ 2. Provide teaching-related examples ■ 3. Provide teaching-related exercises and reflective activities ■ 4. Provide supplementary teaching materials or online resources ■ 5. Provide instructions for self-directed learning ■ 6. Learning objectives are consistent with course goals
(9)	Assignment Submission Method	(■ if included; multiple choices allowed) ■ 1. Provide an online assignment content description

		■ 2. Assignment file upload and download □ 3. Others:
(10)	Assessment	※ **To comply with the spirit of online course design, please understand and agree to the contents of the following 3 items, and provide detailed description:** ■ 1. The course can provide evaluation results and feedback for each learning evaluation ■ 2. The evaluation has taken the students online learning history and participation level into account ■ 3. The percentage of each score is explained in detail below: (Evaluation methods, and their total score percentage) (1) Class Test Online (70%) (2) Assignment (20%) (4) Attendance for classroom and synchronous online learning (10%)
(11)	Precautions for Class:	This course is primarily conducted through the instructor's digital avatar combined with asynchronous pre-recorded video materials.
(12)	**<u>Observe intellectual property rights in the creation of course content.</u>** ※ Pay attention to any infringement of copyright or other rights in the creation of relevant teaching content. ※ If the copyright for any part of the teaching content is owned by others and authorization has been obtained from the rights holder, please indicate the source of the material.	