管院碩士班(含碩專班)課程大綱 MS/MA Program Syllabus

2019.12.16 修訂

系所 Department	資管所	近 IM			必選修		選修 Elective	
	醫管所	听 Med	lical IM		compulsory/elective			
課程名稱	醫療資	醫療資料探勘實作			學分數 Credit(s)		3	
Course title	Data N	Mining	Applications in		()			
	Health	Healthcare						
學年/學期 academic	109-2	109-2 學期 Spring semester 2021			上課地點		管院 349	
year/Semester	7 /94 F 6				Classroom			
講授教師	林育秀				上課時間		Tuesdays,	
Instructor	Yu-Hs	Yu-Hsiu Lin			Time		9:10AM~12:00	
教師辦公室&諮詢時	間 61	14		教師聯絡資訊		Pho	ne: 34614	
Instructor office numb	oer W	/edneso			or Contact Em		ail:	
& office hour					yuh		siu@ccu.edu.tw	
助教	TE	BD		助教 聯			Email: TBD	
Teaching assistant				TA contact				
先修課程	Analys	sis and	l Application of H	ealthcare I	Data OR base S	AS skil		
Pre-requisite courses								
課程目標	Т	This co	urse is an introdu	ction to th	e SAS EG and	EM for	r students. Moreover	
Course Objective	this course will introduce the National Health Insurance Research Database an							
	health-related databases to students. Upon successfully completing this cour							
	iicaitii	i-rerate	d databases to s	tudents. U	Jpon successfu	lly con	apleting this course	
					-	-	-	
	studen	nts wi	ll be able to	"do some	ething useful	with S	SAS," including: t	
	studen identif	nts wi fy/char	ll be able to	"do some problem, to	ething useful o design a prog	with S	SAS," including: t	
AACSB ?	studen identif create	nts wi fy/char execu	ll be able to acterize/define a	"do some problem, to oduce a co	ething useful o design a prog urse project.	with S	SAS," including: to solve the problem, to	
	studen identif create 學習品質	nts wi fy/char execu 質保證	ll be able to racterize/define a ptable code, and pro	"do some problem, to oduce a co	ething useful or design a progurse project.	with S ram to Learni	SAS," including: to solve the problem, to ing goals	
*請先選填為主	studen identif create 學習品質 要或次	nts wi fy/char execu 質保證 要學習	ll be able to cacterize/define a p table code, and pro 學習目標 Assur	"do some problem, to oduce a co ance of Le ninor lear	ething useful o design a prog urse project. earning (AOL) rning goal),	with S ram to Learni 選擇對	SAS," including: to solve the problem, to ing goals	
*請先選填為主 主要學習目標 Majo	studen identif create 學習品質 要或次	nts wi fy/char execu 質保證 要學習	ll be able to racterize/define a p table code, and pro 學習目標 Assur 習目標(Major or r	"do some problem, to oduce a co ance of Le ninor lear	ething useful o design a prog urse project. earning (AOL) rning goal),	with S ram to Learni 選擇對	SAS," including: to solve the problem, to sing goals 應之學習目標	
*請先選填為主 主要學習目標 Majo	studen identif create 學習品質 要或次	nts wi fy/char execu 質保證 要學習	ll be able to racterize/define a partable code, and prompted by a partable code a partable co	"do some problem, to oduce a co ance of Lo ninor lear	ething useful to design a prog urse project. earning (AOL) rning goal), rning 次要 goal	with S ram to Learni 選擇對	SAS," including: to solve the problem, to ing goals 應之學習目標 票 Minor learning	
*請先選填為主 主要學習目標 Majo goal 目標 1:知識整合	studen identif create 學習品質 要或次 r learni	nts wi fy/char execu 質保證 要學習 ing	ll be able to racterize/define a ptable code, and pro 學習目標 Assur 引目標(Major or r 次要學習目標 N goal	"do some problem, to oduce a co ance of Lo ninor lear	ething useful to design a prog urse project. earning (AOL) ening goal),再 ening you	with S ram to Learni 選擇對 學習目标	SAS," including: to solve the problem, to solve the s	
*請先選填為主 主要學習目標 Majo goal 目標 1:知識整合 LG1:Knowledge Inte	studen identif create 學習品質 要或次 r learni	nts wi fy/char execu 質保證 要學習 ing	ll be able to racterize/define a partable code, and prosper left Assur 图目標(Major or rows)要學習目標 Major or rows 文要學習目標 Major or rows 文字學習目標 Major or rows 文字學習	"do some problem, to oduce a co ance of Lo ninor lear	ething useful to design a prog urse project. earning (AOL) ening goal),再 ening you	with S ram to Learni 選擇對 學習目标	SAS," including: to solve the problem, to s	
*請先選填為主 主要學習目標 Majo goal 目標 1:知識整合 LG1:Knowledge Inte 教材	studen identif create 學習品質 要或次 r learni	nts wi fy/char execu 質保證 要學習 ing	ll be able to racterize/define a partable code, and prosper left Assur 图目標(Major or rows)要學習目標 Major or rows 文要學習目標 Major or rows 文字學習目標 Major or rows 文字學習	"do some problem, to oduce a co ance of Lo ninor lear	ething useful to design a prog urse project. earning (AOL) ening goal),再 ening you	with S ram to Learni 選擇對 學習目标	SAS," including: to solve the problem, to s	
*請先選填為主 主要學習目標 Majo goal 目標 1:知識整合 LG1:Knowledge Inte 教材 Teaching materials	studen identif create 學習品質 要或次 r learni	nts wi fy/char execu 質保證 要學習 ing	ll be able to racterize/define a partable code, and prosper left Assur 图目標(Major or rows)要學習目標 Major or rows 文要學習目標 Major or rows 文字學習目標 Major or rows 文字學習	"do some problem, to oduce a co ance of Lo ninor lear	ething useful to design a prog urse project. earning (AOL) ening goal),再 ening you	with S ram to Learni 選擇對 學習目标	SAS," including: to solve the problem, to s	
*請先選填為主 主要學習目標 Majo goal 目標 1:知識整合 LG1:Knowledge Inte 教材 Teaching materials 網址 Course website	studen identif create 學習品質要或次 r learning Hando	nts wi fy/char execu 實保證 要學習 ing n outs	ll be able to racterize/define a ptable code, and property and proper	"do some problem, to oduce a co ance of Lo ninor lear Minor lear	ething useful to design a prog urse project. earning (AOL) ening goal), ening y goal 目標 LG5:	with S ram to Learni 選擇對 學習目材 5:商第 Busine	SAS," including: to solve the problem, to s	
*請先選填為主 主要學習目標 Majo goal	studen identif create 學習品質要或次 r learni Hando E-cour 1. Sar	nts wi fy/char execu 質保證 要學習 ing outs	ll be able to racterize/define a ptable code, and prosper legal	mido some problem, to oduce a co ance of Lo ninor lear Minor lear Minor lear Mils	ething useful o design a prog urse project. earning (AOL) ening goal),再 ening	with S ram to Learni 選擇對 多習目材 5:商第 Busines	SAS," including: to solve the problem, to s	
*請先選填為主 主要學習目標 Majo goal 目標 1:知識整合 LG1:Knowledge Inte 教材 Teaching materials 網址 Course website 教科書/參考書	studen identificreate 學習品質要或次 r learni E-cour 1. Sai sol	nts wi fy/char execu 實保證 要學習 ing nuts rse2 arma, Fulutions 63526-	ll be able to racterize/define a ptable code, and property and proper	"do some problem, to oduce a contact of Lo oduce a contact of Lo oduce of Lo o	ething useful to design a prog urse project. earning (AOL) rning goal),再 goal 目標 LG5:	with S ram to Learni 選擇對 多習目材 5:商第 Busines S Enterp	SAS," including: to solve the problem, to s	
*請先選填為主 主要學習目標 Majo goal 目標 1:知識整合 LG1:Knowledge Inte 教材 Teaching materials 網址 Course website 教科書/參考書	studen identificreate 學習品質要或次 r learnin E-cour 1. Sau sol 1-6 2. Fau	nts wi fy/char execu 實保證 要學習 ing outs rse2 arma, Falutions 63526- aries, D	acterize/define a ptable code, and property	ido some problem, to oduce a co ance of Lo minor lear Minor lear Minor lear dictive moderations (3rd dictive, Z., Siciola, Z., Siciola	ething useful to design a prog urse project. earning (AOL) ening goal),再 ening yeal 目標 LG5: deling with SAS dedition). NC: S	with S ram to Learni 選擇對 多習目材 5:商第 Busines G Enterp AS Inst	ing goals image of the problem, the solve of	

- 0 (PDF))
- 3. Nisbet, R., Miner, G., Yale, K. (2018). Handbook of statistical analysis and data mining applications. DOI: https://doi.org/10.1016/C2012-0-06451-4. (ISBN: 978-0-12-416632-5) (e-Book available)
- 4. Ron Cody (2018). Learning SAS® by example: a programmer's guide, Second Edition. SAS Institute. (ISBN-13: 978-1635266597)
- 5. Wahi, M. M. & Seebach, P. (2017). Analyzing health data in R for SAS users. Chapman & Hall. (ISBN: 9781498795883)
- 6. Tailor, K. (2016). The patient revolution: How big data and analytics are transforming the healthcare experience. Wiley & Sons, Inc. (ISBN: 9781119130178 (ePDF), eBook available).Cody, R. P. & Smith, J. K. (2006). Applied Statistics and the SAS Programming Language, Fifth Edition. Prentice-Hall, Inc. (ISBN13 9780131465329)
- 7. 汪海波(2015)。SAS 統計應用與分析:從入門到精通。上奇資訊。(ISBN: 978-986-375-204-2、Library: 512.4 8326-2)。
- 8. 李采娟(2016)。醫療應用統計學:SAS 操作與資料分析。雙葉書廊。(ISBN: 978-986-6018-70-1、Library: 512.4 8496)。

評量方式(請填百分
比)
Assessment

課堂參與	10%	個案討論 Case study	%
Participation			
作業 Homework	40%	專題 Project	30%
小考 Quiz	%	其他 1 other ()	%
期中考 Midterm	%	其他 2 other ()	%
期末考 Final	20%	其他 3 other ()	%
報告 Presentation	%	其他 4 other ()	%

其他說明 Other description

- Academic Honesty: Academic integrity policy, based on the law: https://goo.gl/z6UqZ2 (Please read and understand). Most students are expected
 to be honest in your academic work, hence, you are expected to comply with the
 law. All research papers/assignments will be submitted through SafeAssignment
 to verify the originality of work and the adequacy of citation of sources.
- 2. **Assignments are due on dates and at times note**: Under normal circumstances, late work will **NOT** be accepted without prior agreement, except in the case of an emergency. You should contact me directly via e-mail if you have difficulty submitting an assignment on time. All assignments are due by close of business (COB) the day.
- 3. **Student Disabilities**: Please contact me personally at the beginning of the semester if you have a condition or disability that may interfere with your performance in this course. We can discuss accommodations that may be necessary to allow you to participate fully and to facilitate your learning opportunities in the class.

課程規劃表 Course Schedule

週次	日期	内容	教材章節	其他說明
week	Date	Description	Textbook	Remark
1.	2/23	Introduction of National Health Insurance Database and		
		application		
2.	3/2	Section 1- Apply in NHIRD: SAS Enterprise Guide		
		Background introduction, Preparing inpatient dataset,		
		and Preparing outpatient dataset		
3.	3/9	Preparing causes of death dataset		
J.		Data analysis and Combine reports		
4.	3/16	Section 2- Application of NHIRD in Base SAS		
5.	3/23	Base SAS, Data preparation, and Merging dataset		
	3/30	Section 3- Customer Analysis		
6.		Import data and Customers' information, Customers'		
		behavior, and Consuming items		
7.	4/6	Data Validation-analyze and check each variable		
	4/13	Data Validation-analyze and check for two variables, and		
8.		self-practice		
9.	4/20	Guest Lecture (TBD)		
10	4/27	Introduction of SAS EM, data mining, dealing with		
10.		missing value		
	5/4	Separated sampling, transformations		
11.		Machine learning 1-logistic regression		
12.	5/11	Machine learning 2-Decision tree		
12.		readmine rearring 2 Decision tree		
13.	5/18	Machine learning 3-ANN		
		Model comparison		
14.	5/25	Section 4- Text mining 1		
15.	6/1	Text mining 2		
16.	6/8	Course review		
17.	6/15	Term paper presentation 1		
18.	6/22	Term paper presentation 2		