國立彰化師範大學
統計資訊研究所碩士班畢業條件表暨課程架構表
（114學年度入學學生適用）

National Changhua University of Education
Graduation Requirements and Course Structure for Master's Program of Graduate Institute of Statistics and Information Science
(Applicable for students in 114 academic year)

一.系必修課程
I.Department Required Courses

課程名稱 Course Name	學分/學時 Credit(s) / Hour(s)	年級 Grade	學期 Semester
論文指導(一) Thesis Supervision I	3/0	2	1
論文指導(二) Thesis Supervision II	3/0	2	2
碩士論文 Thesis	0/0	2	2

二.系選修課程
II.Department Elective Courses

課程名稱 Course Name	學分/學時 Credit(s) / Hour(s)	年級 Grade	學期 Semester
隨機過程(一) Stochastic Process I	3/3	1	1
生物資訊專題(一) Topics of Bioinformatics I	3/3	1	1
高等機率論(一) Probability Theory I	3/3	1	1
高等演算法(一) Advanced Algorithms I	3/3	1	1
多變量分析 Multivariate Analysis	3/3	1	1
金融數學 Finacial Mathematics	3/3	1	1
密碼學 Cryptography	3/3	1	1
資訊安全 Information Security	3/3	1	1
生物統計 Biostatistics	3/3	1	1
生物資訊 Bioinformatics	3/3	1	1
時間序列(一) Time Series Analysis(一)	3/3	1	1
數位影像處理理論與實務 Digital image Processing	3/3	1	1
機器學習 Introduction to Machine Learning	3/3	1	1
資料科學	3/3	1	1

Data Science			
資料分析專題：智慧製造 Topic on Data Analysis: Smart Manufacturing	3/3	1	1
網頁技術 Webpage Technology	3/3	1	1
數位學習專題(一) Topics on E-learning(一)	3/3	1	1
存活分析 Survival analysis	3/3	1	1
隱寫分析 Introduction to Steganalysis	3/3	1	1
類別資料分析 Category Data Analysis	3/3	1	2
統計計算 Statistical Computing	3/3	1	2
隨機過程(二) Stochastic Process II	3/3	1	2
生物資訊專題(二) Topics of Bioinformatics II	3/3	1	2
高等機率論(二) Probability Theory II	3/3	1	2
高等演算法(二) Advanced Algorithms II	3/3	1	2
廣義線性模式 Generalized Linear Model	3/3	1	2
人工智慧 Artificial Intelligence	3/3	1	2
數位學習 e-Learning	3/3	1	2
時間序列(二) Time Series Analysis(二)	3/3	1	2
資訊網路 Interactive Webpage Design	3/3	1	2
數位學習專題(二) Topics on E-learning(二)	3/3	1	2
空間統計書報討論(一) Seminar on Spatial Analysis I	2/2	2	1
密碼學書報討論(一) Seminar on Cryptography I	2/2	2	1
半母數迴歸分析 Semi-parametric regression analysis	3/3	2	1
測驗統計理論研究(一) Modern Measurement Theory I	3/3	2	1
統計諮詢理論與實務 Statistics Consultancy - Theory and Practice	3/3	2	1
長期追蹤資料分析專題(一) Topics in Longitudinal Data Analysis I	3/3	2	1
最佳化理論(一) Optimaization I	3/3	2	1
隨機計算(一) Stochastic Calculation I	3/3	2	1
數學教育研究的統計方法:理論與應用(一) Statistical Method for Research in Mathematics Education-theory and application I	3/3	2	1

資料庫 Databases	3/3	2	1
資料探勘 Data Mining	3/3	2	1
隨機過程專題(一) Topics in Stochastic Process I	3/3	2	1
應用貝氏統計方法專題(一) Topic of Applied Bayesian Statistical Methods I	3/3	2	1
空間統計專題(一) Topics in Spatial Statistics I	3/3	2	1
資訊安全專題(一) Topics in Information Security I	3/3	2	1
中醫統計學(一) Statistics for Chinese Medicine I	3/3	2	1
資料探勘專題(一) Topics in Data Mining I	3/3	2	1
統計推論（一） Statistical Inference I	3/3	2	1
整合醫學論文選讀 Essays on Integrative Medicine	3/3	2	1
密碼學論文選讀(一) Reading in Cryptography(I)	3/3	2	1
健康資料庫加值應用 Value-added applications on health related databases	3/3	2	1
隱寫分析論文選讀(一) Readings on Steganalysis(I)	3/3	2	1
數位影像處理論文選讀(一) Readings on Digital Image Processing(I)	3/3	2	1
統計諮詢實習 Statistics Laboratory	1/1	2	2
空間統計書報討論(二) Seminar on Spatial Analysis II	2/2	2	2
密碼學書報討論(二) Seminar on Cryptography II	2/2	2	2
測驗統計理論研究(二) Modern Measurement Theory II	3/3	2	2
長期追蹤資料分析專題(二) Topics in Longitudinal Data Analysis II	3/3	2	2
貝氏統計方法 Bayesian Statistical Analysis	3/3	2	2
最佳化理論(二) Optimaization II	3/3	2	2
隨機計算(二) Stochastic Calculation II	3/3	2	2
隨機過程專題(二) Topics in Stochastic Process II	3/3	2	2
應用貝氏統計方法專題(二) Topic of Applied Bayesian Statistical Methods II	3/3	2	2
空間統計專題(二) Topics in Spatial Statistics II	3/3	2	2
數學教育研究的統計方法:理論與應用(二) Statistical Method for Research in Mathematics Education-theory and application II	3/3	2	2
資訊安全專題(二)	3/3	2	2

課程名稱 Course Name	學分/學時 Credit(s) / Hour(s)	年級 Grade	學期 Semester
Topics in Information Security II			
中醫統計學(二) Statistics for Chinese Medicine II	3/3	2	2
臨床研究法 Clinic Research	3/3	2	2
資料探勘專題(二) Topics in Data Mining II	3/3	2	2
統計推論（二） Statistical Inference II	3/3	2	2
密碼學論文選讀(二) Reading in Cryptography(II)	3/3	2	2
隱寫分析論文選讀(二) Readings on Steganalysis(II)	3/3	2	2
數位影像處理論文選讀(二) Readings on Digital Image Processing(II)	3/3	2	2

三.甲組組必修課程
Ⅲ.Required Courses for Probability and Statistics Group

課程名稱 Course Name	學分/學時 Credit(s) / Hour(s)	年級 Grade	學期 Semester
核心課程1(至少6學分) Main course1(6 credits is least required)			
數理統計(一) Mathematical Statistics I	3/3	1	1
數理統計(二) Mathematical Statistics II	3/3	1	2

四.乙組組必修課程
Ⅳ.Required Courses for Information Science Group

課程名稱 Course Name	學分/學時 Credit(s) / Hour(s)	年級 Grade	學期 Semester
核心課程2(至少6學分) Main course2(6 credits is least required)			
資料分析(一) Data Analysis I	3/3	1	1
資料分析(二) Data Analysis II	3/3	1	2

五.甲組組選修課程
V.Group 's Elective Course(s) for Probability and Statistics Group

課程名稱 Course Name	學分/學時 Credit(s) / Hour(s)	年級 Grade	學期 Semester
核心課程1(至少6學分) Main course1(6 credits is least required)			
資料分析(一) Data Analysis I	3/3	1	1
資料分析(二) Data Analysis II	3/3	1	2

六.乙組組選修課程

VI.Group 's Elective Course(s) for Information Science Group

課程名稱 Course Name	學分/學時 Credit(s) / Hour(s)	年級 Grade	學期 Semester
核心課程2(至少6學分) **Main course2(6 credits is least required)**			
數理統計(一) Mathematical Statistics I	3/3	1	1
數理統計(二) Mathematical Statistics II	3/3	1	2

七.先修科目
VII.Prerequisite Courses

先修課程 Prerequisite Course	後修課程 Subsequent Course

八.畢業條件
VIII.Graduation Requirements

一、本所最低畢業學分為24學分,包含必修6學分〔核心課程中資料分析(一)(二)及數理統計(一)(二)二選一為必修科目〕、選修18學分。
二、「論文指導(一)(二)」6學分及教育學分皆不計入畢業學分;凡註冊後應至少修習一門科目(含論文),否則應辦理休學。已修畢最低畢業學分而論文尚在撰寫中者,次學年起每學期必須選修「碩士論文」。
三、凡選修本所及數學系碩、博士班之課程,均採認畢業學分。
四、本所研究生可逕修讀管理學院「計量經濟」、「行銷管理」兩科目(含6學分內),其他選修課程,經指導教授同意可修習本、外校相關系、所碩、博士班課程並列入畢業學分,至多6學分為限。
五、本所研究生欲修習教育學程者,須經本校甄選通過後始可修讀;教育學分不計入畢業學分。
六、學生須參與本所或數學系每學年舉辦之學術演講場次達2/3以上,並經所辦審查通過方可畢業。
七、研究生應於申請學位考試前修習通過於「臺灣學術倫理教育資源中心」
(https://ethics.nctu.edu.tw/)網路教學平台之「學術研究倫理教育」課程等相關規定。

Graduation Requirements for the Graduate Institute of Statistics and Information Science

1. The minimum graduation credits for the Institute are 24 credits, including 6 required credits (Students must choose one of the following core courses: Data Analysis I, II and Mathematical Statistics I, II). Additionally, students must complete 18 elective credits.

2. "Thesis Supervision I, II" worth 6 credits and education credits are not counted towards graduation credits. Students must enroll in at least one course (including thesis) after registration, otherwise they should apply for leave of absence. Those who have completed the minimum graduation credits but the thesis is still being written must take the "Master's Thesis" course each semester starting from the following academic year.

3. Credits earned from courses taken in the Graduate Institute of Statistics and Information Science, as well as in the Department of Mathematics at the master and doctoral levels, are recognized as graduation credits.

4. Graduate students of the Institute can directly take two courses (including 6 credits) of Econometrics and Marketing Management from the College of Management. With the consent of the supervising professor, other elective courses at the master and doctoral levels from related departments or graduate programs within or outside the university can be taken and counted towards graduation credits, with a maximum of 6 credits.

5. Graduate students in the Institute who wish to study education program must pass the university's selection process before being allowed to enroll. Education credits are not

counted towards graduation credits.

6. Students must participate in at least 2/3 of the academic seminars held by the Institute or the Department of Mathematics each academic year, and must pass the review conducted by the institute in order to graduate.

7. Before applying for the degree examination, graduate students must complete the relevant requirements, including taking the "Academic Research Ethics Education" course on the website of the "Center for Taiwan Academic Research Ethics Education" (https://ethics.nctu.edu.tw/).