**元智大學資訊學院英語學士班 必修科目表**

**International Bachelor Program in Informatics**

**Yuan Ze University**

**List of Required Courses**

**（112學年度入學新生適用Academic Year 2023）**

111.04.20 一一○學年度第六次教務會議通過

Approved by the 6th Academic Affairs Meeting, Academic Year 2021, on April 20, 2022

112.05.31 一一一學年度第七次教務會議修訂通過

Amended by the 7th Academic Affairs Meeting, Academic Year 2022, on May 31, 2023

113.01.03 一一二學年度第六次教務會議修訂通過

Amended by the 6th Academic Affairs Meeting, Academic Year 2023, on January 03, 2024

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| 學年Year 學期Semester科目Course | 第一學年1st Academic Year | 第二學年2nd Academic Year | 第三學年3rd Academic Year | 學四學年4th Academic Year |
| 上Fall | 下Spring | 上Fall | 下Spring | 上Fall | 下Spring | 上Fall | 下Spring |
| 共同必修科目CommonCompulsory（17） | 國文(一)Chinese (I)（2） | 國文(二)Chinese (II)（2） |  |  |  |  |  |  |
| 英語(一)English (I)（2） | 英語(二)English (II)（2） |  |  |  |  |  |  |
| 外語課程應修習10學分。1. 「英語（一）」及「英語（二）」為基礎課程，採能力分級上課，共計二學期四學分。
2. 除了「英語（一）」及「英語（二）」外，畢業前應修畢三個不同主題式英語課程，共三學期5學分，其中2學分須來自「口語英文溝通」(EL228)及2學分來自「實用英文寫作」(EL227)。
3. 大一英語能力後測「TOEIC模擬測驗」成績未達350分者，應修習「應試加強班」(EL260)。修習「應試加強班」期間之期末TOEIC模擬測驗成績未達350分者，則該科成績將「不及格」，並應再次修習「應試加強班」，直到取得TOEIC模擬測驗分數達350分(含)始得修習其他主題式英語課程。
4. 另開設「英語檢定」(EL360)計一學期1學分，「英語檢定」之修課限制與注意事項，請參照「通識外語『英語檢定』修課規定」，並由通識教學部公佈後施行。

外國學生改修華語須經國際語言文化中心審核通過始可改修華語課程10學分，其華語課程10學分應含「華語檢定」1學分，「華語檢定」修課限制與注意事項，請參照「通識外語『英語檢定』修課規定」。凡本校大學部外國學生修習「華語(一)」或「華語(二)」任一課程成績未達60分，不得修習「華語(三)」、「華語(四)」。若修習「華語(三)」、「華語(四)」任一課程成績未達60分，不得修習「華語(五)」或「華語檢定」(EL372)。The undergraduate students must complete 10 required credits of foreign language courses.1. English (I) & (II) for the total 4 credits: English (I) and (II) are 4 credit elementary courses for the freshmen who are grouped on English competence; to complete within two semesters.
2. English thematic course for the total 5 credits: English thematic courses are 5-credit English courses; students are required to obtain 5 credits through 3 different thematic courses for graduation. Among them must include a two-credit course "Oral English Communication" (EL228) and a two-credit course "Practical English Writing" (EL227).
3. Students who do not reach the 350-point threshold of TOEIC Mock Exam in the end of the freshman year must take “English Testing” (EL260) course. Students will fail the course if they do not score higher than 350 points in TOEIC Mock Exam by the end of the course, and must repeatedly take the course until they can score higher than 350 points.
4. “English Testing” (EL360) for the total 1 credit: For the requirements of registering “English Testing”, please refer to "the Regulation for Registering English Test" announced and implemented by the College of General Education.

Foreign students need approval by ILCC for taking 10 credits of Mandarin Chinese courses as alternative courses of English.The undergraduate foreign students must pass Mandarin Chinese (I) and (II) before taking Mandarin Chinese (III) and (IV). Students must pass Mandarin Chinese (III) and (IV) before taking Mandarin Chinese (V) and Chinese Proficiency Test (EL372).英語檢定English Testing（1）、經典選讀 A Guide to Classics（2）、服務學習Service Learning（1） |
| 體育Physical Education(0) | 體育Physical Education(0) | 興趣選項體育Optional Physical Education(0) | 興趣選項體育Optional Physical Education(0) |  |  |  |  |
| 大學部必須修習4學期體育課程；其中2學期為大一體育課程原班級上課，另2學期為興趣選項體育課程。The undergraduate students must attend the physical education course for 4 semesters; 2 semesters for the freshman physical education courses, the other two semesters for the optional physical education courses. |
| ★通識教育科目GeneralEducation（10） | 通識課程分為人文藝術、自然科學、社會科學及生命科學四大類。學生須於四大領域中各選修2學分課程，共計8學分。General Education program comprises four categories: Humanities, Natural Science, Social Science and Life Science. Students are required to take a 2-credit course from each category to obtain 8 credits before graduation.通識跨域課程General Education Interdisciplinary Course：外籍生與工程學院英語學士班、資訊學院英語學士班、人文社會學院英語學士班、電機通訊學院英語學士班學生仍須於四大領域中選課，依各院修課規定辦理。Foreign students and undergraduates of International Programs in the Colleges of Engineering, Informatics, Humanities and Social Sciences, as well as Electrical and Communication Engineering are required to take a 2-credit course from the four categories according to each college’s policy before graduation.通識教育科目10學分，須選修英語授課課程。The five courses selected must be the General Education Courses taught in English. |
| ★院必修科目CollegeCompulsory（4） | 基礎程式設計-C++實習（一）Fundamental Computer Programming- C++ Lab(I)CI001 | 基礎程式設計-C++實習（二）Fundamental Computer Programming- C++ Lab(II)CI002 |  |  |  |  |  |  |
| 程式語言共4學分，依各院修課規則辦理。The Fundamental Computer Programming has 4 credits in total, which is subject to the rules of each college. |
| 學士班必修科目Required Courses(75) | 核心必修Required Core Courses(57) | ★微積分(一)Calculus(I)IN101(3) | ★微積分(二)Calculus(II)IN105(3) | ★線性代數Linear AlgebraIN201(3) | ★機率與統計Probability and StatisticsIN207(3) | ★計算機網路概論Introduction to Computer NetworksIN301(3) | ★人工智慧概論Introduction to Artificial IntelligenceIN312(3) | ★資料庫系統概論Introduction to Database SystemIN401(3) |  |
| ★資訊概論Introduction to Computer ScienceIN102(3) | ★離散數學Discrete MathematicsIN106(3) | ★資料結構Data StructuresIN202(3) | ★演算法概論Introduction to AlgorithmsIN208(3) | ★英語簡報技巧English Presentation SkillsIN311(3) | 專業實習(一)Practical Training(I)IN421(3) | 專業實習(三)Practical Training(III)IN423(3) |  |
| ★程式設計(一)Computer Programming(I)IN103(3) | ★程式設計(二)Computer Programming(II)IN107(3) | ★數位系統設計Digital System DesignIN204(3) | ★作業系統概論Introduction to Operating SystemIN209(3) |  | 專題製作(一)Special Project(I)IN431(3) | 專題製作(二)Special Project(II)IN432(3) |  |
|  |  |  | ★組合語言與計算機組織Assembly Language and Computer OrganizationIN210(3) |  |  |  |  |
| 學分Credit | 9 | 9 | 9 | 12 | 6 | 6 | 6 |  |
| 專業必選修Selective RequiredCourses(18) | 智慧財產權Intellectual PropertyIN104(3) | 管理資訊系統Management Information SystemsIN110(3) | 資料通訊概論Introduction to Data CommunicationsIN203(3) | 資訊隱私Information PrivacyIN211(3) | 編譯程式概論Introduction to CompilerIN302(3) | 資訊人員溝通MIS Professional CommunicationIN308 (3) | 電腦與網路安全概論Introduction to Computer and Network SecurityIN402(3) |  |
| 英語聽與讀(一)English Listening and Reading (I)IN111(2) | 英語聽與讀(二)English Listening and Reading (II)IN112(2) | 網頁程式設計Web ProgrammingIN206(3) |  | 內嵌式系統設計與實習Embedded System Design and PracticeIN303(3) | 行動裝置程式設計Mobile Device ProgrammingIN310(3) | 決策支援系統Decision Support SystemsIN403(3) |  |
|  |  |  |  | 服務與科技管理Service and Technology ManagementIN304(3) | 學術英文寫作Academic English WritingIN313(3) | 行銷管理Marketing ManagementIN404(3) |  |
|  |  |  |  | 虛擬實境Virtual RealityIN309(3) | 影像處理概論Introduction to Image ProcessingIN314(3) |  |  |
|  |  |  |  | 大數據分析概論Introduction to Big Data Analysis IN315(3) | 智慧製造Smart ManufacturingIN317(3) |  |  |
|  |  |  |  |  | 資料探勘Data MiningIN316(3) |  |  |
| 備註Remarks | 除核心必修科目外，必須修習資工、資管、資傳系所開設之其他英語授課課程，共計18學分。In addition to the required core courses, students must take 18 credits of other English-taught courses offered by the Dept. of Computer Science and Engineering or Dept. of Information Management or Dept. of Information Communication. |
| 檢定Testing（0） | 程式能力檢定Programming Language Proficiency TestingIN420(0) |
| 備註Remarks全文完 | 1.畢業學分：128學分。其中須包含共同必修及通識課程共27學分、院必修程式語言課程共4學分、學士班必修科目75學分、學士班選修科目22學分。學士班選修科目22學分中，至少12學分必須選修本校資訊學院所屬系所課程。國外交換學習期間所取得學分依實際情形申請抵修必修、專業必選修、選修課程，不限學分數。Minimum credits required for a Bachelor of Science degree: 128 credits, including 27 credits from common required courses and general education, 4 credits from College Compulsory Courses Fundamental Computer Programming, 75 credits from required courses, and 22 credits from electives. Among the 22 credits from electives, at least 12 credits must be obtained from the courses offered by the programs or departments within the College of Informatics. The credits obtained from the courses taken by a student during her/his exchange study at a cooperated institution may be used to substitute any courses offered by this program. 2.英語授課以「★」表示，包含通識教育科目10學分、學士班核心必修57學分及專業必選修18學分。「★」：The credits granted by English-taught courses include 10 credits from General Education, 57 credits from required core courses and 18 credits from selective required courses.3.通識教育科目學分只採計至多10學分，超修之學分將不列入畢業學分。At most 10 credits obtained from general education courses are counted toward graduation. The excessive credits will not be counted.4.「程式能力檢定」課程及格標準：參加「大學程式能力檢定（Collegiate Programming Examination-CPE）」，一次答對至少2題或累計答對3題。Programming proficiency test requirement: take the Collegiate Programming Examination (CPE) and answer at least two questions correctly at a time or answer three questions correctly accumulatively.5.專業實習與專題製作兩系列課程至少須選修一系列之所有課程：Students must either take Practical Training or Special Project, as well as the series of courses related to it:(1)專業實習（校外）共6門課，包括專業實習（一）至專業實習（六）。Practical Training (off-campus) consists of 6 courses: Practical Training (I) through (VI).國外實習每滿4週(每週工作五天)，可取得3學分，但每満16週可取得16學分，最多以18學分為限。國外實習週數可以分段累積，每一段至少連續4週，取得學分可依累積週數計算。學生必須至少取得專業實習課程12學分，其中須包含專業實習(一)與專業實習（三）兩必修課程之學分以及專業實習(二)與專業實習(四)兩選修課程之學分。學生可選修專業實習(五)和專業實習(六)之課程以取得更多專業實習學分。若國外實習所取得學分數少於12，學生可以國內專業來取得所需學分，其規定依本學士班實習辦法辦理，唯實習期滿每一暑假或每滿一學期可取得6學分，未滿一暑假或一學期，則不計學分。國內實習最多以取得12學分為限。國內實習學分與國外實習學分總和以不超過18學分為限。A student can obtain 3 credits for every four weeks (five working days per week) of practical training carried out in a foreign country or region. However, a student can obtain 16 credits for every 16 weeks of foreign practical training, and totally up to 18 foreign practical training credits. The credits can be granted based on the accumulated duration of foreign practical training. A minimum duration should last at least four consecutive weeks. A student must obtain at least 12 credits from Practical Training (I), (II), (III), and (IV). If a student would like to earn more than 12 practical training credits, he/she should take Practical Training (V) and (VI). If the number of credits obtained from foreign practical training is less than 12, a student must take local practical training to obtain enough credits. Students should refer to the related regulations for details. Note that the duration of local practical training is either a whole summer break (10 weeks) or a whole semester (18 weeks). A student can earn three credits from completing a whole summer or a whole semester of local practical training. A student can obtain at most 12 credits from foreign practical training. The total credits earned form foreign and local practical training cannot exceed 18 credits.(2)專題製作（校內）共2門課，包括專題製作（一）、專題製作（二）。Special Project (on-campus) consists of two courses, Special Project (I) and (II).專題製作課程依本學士班專題製作相關規定辦理。Students must refer to the regulations for Special Project courses for details.6.「專業實習（三）」與「專題製作（二）」為終端學習課程。The experiential learning courses:“Practical Training (III)” and “Special Project (II)” .7.「資料庫系統概論」為本學士班「議題導向實作專題課程」.“Introduction to Database System” is the "Topic and Implementation-Oriented Course".8.「作業系統概論」與「人工智慧概論」為本學士班「數位應用相關課程」，畢業前須通過至少2門「數位應用相關課程」。“Introduction to Operating System” and “Introduction to Artificial Intelligence” are the “Digital Application Courses”. Students need pass these two courses before graduation.9.有關共同必修及通識教育科目之詳細規定，另依據「元智大學共同必修科目表」之規定辦理。Please refer to Yuan Ze University Common Required Course List.10.擋修規定(Pre-requisites)：通過「程式能力檢定」者，始得修習「專題製作（一）」、「專題製作（二）」、「專業實習（一）」、「專業實習（二）」、「專業實習（三）」、「專業實習（四）」。Students must pass the programming proficiency test requirement before taking Special Project I and II, or Practical Training.11.自106學年度起軍訓課程由必修改為選修，該學分納入當學期修課學分數計算，但不納入畢業總學分計算。The military education courses are no longer compulsory starting the 106 academic year. The military education courses will not be accumulated to the graduation requirements, but they can be counted as taken credits for each semester.12. 英語檢定成績未達多益成績750分或護照國籍官方語言和通用語言非英語者必須選修「英語聽與讀（一）」和「英語聽與讀（二）」。Students with English proficiency level lower than TOEIC score 750 or equivalent, and the country listed in student’s passport does not use English as official language and common language must take English Listening and Reading (I) and English Listening and Reading (II). |

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