

## 110 學年度第 1 學期校核心課程規劃重要相關注意事項

### 一、本校學士班畢業前須修校核心課程 37 學分。

- (一) 一般學士班、國際學士班本籍生：語文必修 9 學分（中文必修 3 學分、英語必修 6 學分）、體育必修 4 學分、服務學習必修 2 學分、資訊科技必修 2 學分，選修核心課程 20 學分。
- (二) 國際學士班外籍生：語文必修 9 學分（華語必修 6 學分、英文選修或第二外語 3 學分）、體育必修 4 學分、服務學習必修 2 學分、資訊科技必修 2 學分，選修核心課程 20 學分。

### 二、選修核心課程之規定：

- (一) 選修核心課程(包含必選修核心課程、認列選修核心課程)，共須修習 20 學分。
- (二) 必選修核心課程共三類：
  1. 理性思維
  2. 文化涵養
  3. 在地關懷
- (三) 三類必選修核心課程，每類至少選修 1 門課程。
- (四) 其餘學分可選修「認列選修核心課程」，認列選修核心課程包括：
  1. 課程代碼 GC 之課程。
  2. 非本系之院基礎、系核心及專業課程(非師培學系國小、中等教育師培生，修讀師培中心開設之教育學程學分，不得計入通識學分，若放棄教育師資資格且經師培中心確認者，則可計入通識學分)。
- (五) 國際學士班修畢國際學士學位學程或國際學士班規定之專業課程所需學分後，得修習本校全英語授課課程認抵選修核心課程至多 20 學分。

註：舊生若選擇 106 學年度以後之課規者，三類必選修核心課程，每類至少選擇 1 門課程，其餘學分可選修「認列選修核心課程」，認列選修核心課程包括：(1) 課程代碼(GC 之課程)、(2) 非本系之院基礎、系核心及專業課程(含系規劃之專業學程)，選修核心課程共須修習 20 學分，惟需加修「資訊科技」2 學分；學生須留意所選課程是否為系所不計入科目(請參考通識課規)？修習之系所不計入課程不會計入通識學分，但會計入畢業學分。學生修習師培中心開設之國小、中等教育學程之學分數因不計入畢業學分數，故不得認列至通識學分計算。

### 三、中文修課規定：

- (一) 一般學士班學生及國際學士班之本籍生：「中文能力與涵養」必修 3 學分。
- (二) 國際學士班之外籍生：華語課程必修 6 學分。
- (三) 學生(中文系及華文系除外)符合免修條件者，得申請免修中文必修 3 學分，並核予 3 學分。詳細檢核標準和實施辦法，依本校「學士班校核心必修課程免修作業要點」公告為準。

1. 由於「中文能力與涵養」課程為大一必修課程，自104學年度起採統一匯入名單方式排課，上學期排定為管理學院、教育學院、農學院、環境學院、藝術學院大一學生修習，下學期排定為人社院、理工學院大一學生修習。

2. 學生(中文系及華文系除外)符合免修條件者，得申請免修中文必修3學分，並核予3學分。詳細檢核標準和實施辦法，依本校「學士班校核心必修課程免修作業要點」公告為準。

#### 四、英語修課規定：

(一) 一般學士班學生、國際學士班之本籍生：英語必修6學分。

1. 英美系須修習「英語口語聽講(一)、(二)、(三)、(四)」課程。

2. 非英美系學生則按級別修習三類必修課程(英語線上學習、英語溝通、英文閱讀與寫作)。

3. 修畢三類必修課外，須通過英語能力畢業標準。詳細檢核標準和實施辦法，依語言中心「學士班學生英語能力畢業標準及實施辦法」公告為準；非英美系學生符合本校英語免修條件者，得申請免修英語必修6學分；核准免修者，視同通過本校「學士班學生英語能力畢業標準」，核予英文必修學分，並計入語文領域必修學分內。申請方式依本校「學士班校核心必修課程免修作業要點」公告為準。

(二) 國際學士班之外籍生：須修習英文選修或第二外語3學分。

(三) 英語分級與修課規定：

1. 學士班學生入學時依大學學測英文成績，英文程度分為一、二、三級。學生需依其級數修習通識英語必修學群「英語線上學習」2學分、「英文閱讀與寫作」2學分、「英語溝通」2學分，共計三種6學分/6小時。

2. 除修畢英語必修6學分外，學生需通過英語能力檢定測驗，始達本校英語能力畢業標準。通過檢測之學生，持成績證明至語言中心登錄。

3. 未通過前條英語能力檢測者，需加修2門通識英語必修(須高於入學核定之英語級數)、英語選修課程或各院系所規劃且語言中心認可之全英語授課課程4-6學分，惟加修之學分不計入校核心43學分內，但列入畢業總學分。加修課程請依語言中心公告。

4. 學生於修課前二年內或修課期間，通過其他相對應之校內外英語能力檢定測驗，原英語必修學群6學分，可採用英語必修學群或語文選修學群學分認列。

5. 語言中心每學期舉辦校園英語能力測驗。校內檢測採自由報名，應試者需繳工本費(由語言中心另訂)，該測驗成績可申請辦理通過本校英語能力畢業標準。

6. 非英美系學生符合本校英語免修條件者，得申請免修英語必修6學分；核准免修者，視同通過本校「學士班學生英語能力畢業標準」，核予英文必修學分，並計入語文領域必修學分內。申請方式依本校「學士班校核心必修課程免修作業要點」公告為準。

7. 各學系如訂有高於國立東華大學學士班學生英文能力畢業標準及實施辦法之規範，以系所制定標準為依據。僑生由畢僑組協同語言中心安排測試分級。身心障礙學生由心理諮商輔導中心協同語言中心視其狀況安排合適之英語課程。

## 五、體育修課規定：

- (一) 一般學士班及國際學士班之學生：應於畢業前修畢「體育(一)」、「體育(二)」、「體育(三)」及「體育(四)」課程，其中「體育(一)」及「體育(二)」課程應分別第一學年上、下學期修習。學生於畢業前須通過體適能指標檢定，檢定標準依體育中心「體育課程實施辦法」公告為準。
- (二) 體育系學生須以選修該系之學程術科任四門課程抵認體育(一)、體育(二)、體育(三)、體育(四)學分。

註：自103學年度起，大一體育課程，因隨班上課需要採統一匯入學生名單方式排課。為避免上課人數因網路加退選造成大一班級人數異常波動及非原計畫之混班上課上課情形，106-2學期起不允許體育(一)、(二)課程網路加退選，但考量特殊需要，維持高年級同學(大二以上)、轉學生、復學生一律於線上加簽階段加選體育(一)、(二)課程；其他體育課程(體育(三)及體育(四))於初選階段僅開放選修一門為限，加退選階段則不受限制。體育課程皆因有場地限制與安全因素考量，請選課同學務必注意出席第一次課堂，並詳閱授課教師教學計畫。

六、服務學習修課規定：一般學士班及國際學士班之學生應於畢業前，依序修畢「服務學習(一)」與「服務學習(二)」兩門課程，且「服務學習(一)」須修習所屬系所開設之課程，「服務學習(二)」可修習所屬系所或其他系所單位開設之課程，是否符合畢業資格請洽各系辦理。

七、資訊科技修課規定：依本校「學士班學生程式設計能力畢業標準及實施辦法」實施。學生符合免修條件者，得申請免修資訊科技必修2學分，並核予2學分。

1. 本校學士班學生依其所屬學系分為初級(非理工學院與資訊管理學系學生)與進階級(理工學院及資訊管理學系學生)；學生得依級別修習資訊科技類2學分、或依核准之資訊相關學分抵認資訊科技類學分(詳如本中心公告之抵認彙整科目表)、或透過比賽、認證、檢定方式(含本校自辦之程式設計能力檢定)通過本校程式設計能力畢業標準之學生得免修資訊科技類2學分，並核予2學分。

2. 理工學院學生(資工系、電機系、應數系、資管系除外)需修習通識中心開設之中級程式設計課程或附件表列中級程式設計相關課程(不得修習初級程式設計課程，否則不計入通識學分)、其他系所學生需修習通識中心開設之初級程式設計課程或附件表列課程；資工系、電機系、應數系、資管系學生須修習系上資訊相關必修課程方能抵認，若修習通識開設之程式設計課程者，不計入通識學分。

八、各學系學生修習與該系專業領域相關之校核心課程，認列範圍由各院、系課程委員會自訂。

九、其他：跨校性遠距教學課程計入認列選修核心課程學分計算。各課程以每學期公告為準。十、畢業生可於四年級上學期選擇適用在校修業期間內，最有利之校課程規劃合計畢業學分數，但不一定要與專業必選修部分所選用課程規劃表之學年度相同。

校核心課程經加退選後未達下限20人，原則上不予開課。開學前後校核心課程若有增減，請同學注意公告。為免影響選課權益，請同學務必出席第一堂課，並詳閱教學計畫內容(請注意選課備註說明)；自105學年度起，於線上加簽期間，本中

心已不再接可學生辦理退課事宜，敬請審慎評估選課事宜。相關校核心課程資訊公佈於通識教育中心網站（以教務處之公告為準）。並請同學確實遵守各項通識課程之相關選課事項。

十一、自 108-2 起，以下 5 門全英授課課程，將取消計入英檢加修課程，選課時請務必斟酌考量，以免影響畢業權益；其他英檢加修課程請至語言中心網頁查詢。

課碼	課名
GC__B0060	鋼琴彈奏入門與欣賞
GC__17900	理財入門
GC__63160	經濟學概論
GC__64680	書法入門與習作
GC__44700	全球環境變遷與永續發展

110 學年度各學系專業課程抵認校核心「資訊科技」課程彙整表

學系	課號	課名	學分數	備註
應數系	CSIE10400	程式設計(一)	3/3	資工系支援
	AM__11300	軟體實作與計算實驗	3/3	
	CSIE20000	資料結構	3/3	資工系支援
	CSIE10500	程式設計(二)	3/3	資工系支援
	CSIE20800	演算法	3/3	資工系支援
物理系	APH_50200	計算物理(一)	3/3	
	APH_51100	計算物理(二)	3/3	
	PHYS31100	實驗物理技術(一)	3/3	
化學系	CHEM53800	計算化學	3/3	1.通識課：中級程式設計課程 2.化學系：計算化學 3.電資基礎學程：程式設計 4.資管系：網頁程式設計、其他資工系程式設計相關課程。
生科系	新開課	生物資訊分析	3/3	1.通識課：中級程式設計課程 2.電資基礎學程：程式設計(一) 3.資管系：網頁程式設計、其他資工系程式設計相關課程。
電機系	CSIE10400	程式設計(一)	3/3	資工系支援
資工系	CSIE10400	程式設計(一)	3/3	資工組
	CSIEB0020	程式設計(一)	3/3	國際組(全英授課)
光電系	OE__10390	數位設計	3/3	
	OE__10350	光電數值分析與計算	3/3	
	OE__10400	光電工程數位製圖	3/3	
材料系	本系學生請修習通識中心開設之中級程式設計-材料計算、中級程式設計課程。			
資管系	IM__11200	初階程式設計	3/3	
資管系	IM__11300	進階程式設計	3/3	
自資系	NRES__20230	初級程式設計-R 語言	3/3	
特教系	SPE__22520	智慧溝通系統發展與應用	2/2	

說明：

- 106 學年度起學士班校核心課規增列「資訊科技必修 2 學分」，如系上有課程能結合程式設計元素，學生修課後即可抵認資訊科技課程(詳如表列)，抵認後需補足通識學分。如系上無專業課程，理工學院學生(資工系、電機系、應數系除外)需修習通識中心開

設之中級程式設計課程或上表表列中級程式設計相關課程；非理工學院及資管系學生需修習通識中心開設之初級程式設計課程或上表表列課程。

2. 資工系、電機系、應數系、資管系學生須修習系上資訊相關必修課程方能抵認，若修習通識開設之程式設計課程者，不計入通識學分。

# 校核心課程

( 37 學分 )

## 語文教育

( 9 學分 )

- ◇ 本國語文 (必修 3 學分)  
\*中文能力與涵養  
\*華語
- ◇ 英語必修 (必修 6 學分)  
\*英語線上學習  
\*英語溝通  
\*英文閱讀與寫作

修畢英語必修課程後，須通過「英語能力畢業標準」。

## 資訊科技

( 2 學分 )

- ◇ 初級程式設計
- ◇ 中級程式設計

## 體育

( 4 學分 )

- ◇ 體育(一)
- ◇ 體育(二)
- ◇ 體育(三)
- ◇ 體育(四) (必修 4 學分)

畢業前須通過「體適能指標檢定」。

- 軍訓 (選修/全民國防教育軍事訓練課程)

## 服務學習

( 2 學分 )

- ◇ 服務學習(一) (必修本系開設課程)
- ◇ 服務學習(二) (可修習本系或外系開設之課程)

是否符合畢業資格，請洽各系辦理。

## 選修核心課程

( 20 學分 )

三類必選修核心課程，每類至少選修 1 門課程，其餘學分可修習「認列選修課程」

### 必選修核心課程

- ◇ 理性思維
- ◇ 文化涵養
- ◇ 在地關懷

### 認列選修核心課程

- ◇ 課號 GC 課程
- ◇ 非本系之院基礎、系核心及專業課程

## Important Information about the University Core Curriculum for Spring 2021

### I. Undergraduate students must complete **37** University Core Curriculum credits before graduation.

#### 1. Students in General Programs and Local Students in International Programs:

Languages (9 credits total: 3 credits for Chinese & 6 credits for English), Physical Education (4 credits total), Service Learning (2 credits total), Information Technology (2 credits), and Elective Core Courses (**20** credits total)

#### 2. International Students in International Programs:

Languages (9 credits total: 6 credits for Mandarin Chinese & 3 credits for Elective English or Second Foreign Languages), Physical Education (4 credits total), Service Learning (2 credits total), Information Technology (2 credits), and Elective Core Courses (**20** credits total)

### II. Elective Core Courses

#### 1. Students must complete **20** credits total for Elective Core Courses, including Required Elective Core Courses and Recognized Elective Core Courses.

#### 2. Required Elective Core Courses consist of the following three academic categories:

- (1) Rational Thinking
- (2) Cultural Literacy
- (3) Local Commitment

#### 3. Students should take at least one Required Elective Core Course in each of the three categories.

#### 4. The remaining Elective Core Course credits may be from the following two kinds of “Recognized Elective Core Courses”:

- (1) Courses with codes beginning with “GC”
- (2) College foundational courses or department core and specialized courses offered outside of students’ major departments or programs\*

\* For students of non-Education departments who are in the Pre-service Teacher Education Programs for Elementary or Secondary Education, the Teacher Education credits earned from the courses offered by the Center for Teacher Education cannot count toward the University Core Curriculum credits unless they abandon the qualification as pre-service teachers, and such abandonment is officially confirmed by the Center for Teacher Education.

#### 5. Students in International Programs may take a maximum of 20 credits of English-taught courses offered at NDHU to fulfill the Elective Core Course Requirement after completing all the required professional and specialized course credits of their enrolled programs.

**Note:** Undergraduate students enrolled before Fall 2017 who choose to apply to a newer version of the University Core Curriculum Requirements should take at least one course from each of the three Required Elective Core Course categories and also Recognized Elective Core Courses, including (1) courses with codes beginning with “GC,” and (2) college foundational courses or department core and specialized courses offered outside of students’ major departments or programs to meet 20 credits of the Elective Core Course requirement. In addition, a 2-credit “Information Technology” course is required. Also, please consult the General Education regulations to make sure if a course taken can count toward the major or program course requirements; a course taken that does not count toward the University Core Curriculum course credits will still be included in the total course credits completed upon graduation. And since credits of the Pre-service Teacher Education Program for Elementary or Secondary Education from courses offered by the Center for Teacher Education do not count toward the course credit requirements for graduation, they cannot count toward the course requirements for the General Education/University Core Curriculum.

### III. Chinese Courses

#### 1. Students in General Programs and Local Students in International Programs:



“Chinese Language Ability and Education” (3 credits) in the first study year

2. International Students in International Programs:

Mandarin Chinese (6 credits total)

3. Non-Chinese or non-Sinophone Literature major students who are eligible for a waiver of the required “Chinese Language Ability and Education” course may submit a waiver request and be granted 3 credits. For the details of the waiver qualifications and regulations, please refer to the NDHU Undergraduate Guidelines for Required Core Course Waivers.

1. “Chinese Language Ability and Education,” required for first-year undergraduate students, is automatically assigned to students since Fall 2015. Fall Semester: students of Management, Education, Indigenous Studies, Environmental Studies, and Arts; Spring Semester: students of Humanities and Social Sciences and Science and Engineering.

2. Non-Chinese or non-Sinophone Literature major students who are eligible for a waiver of the required “Chinese Language Ability and Education” course may submit a waiver request and be granted 3 credits. For the details of the waiver qualifications and regulations, please refer to the NDHU Undergraduate Guidelines for Required Core Course Waivers.

#### IV. English Courses

1. Students in General Programs and Local Students in International Programs:

(1) English Major Students: English Oral Training I, II, III, and IV (1.5 credits each).

(2) Non-English Major Students: “Online English Learning,” “English Communications,” and “English Reading and Writing” (2 credits each) according to the English levels of individual students.

(3) In addition to the three required English Core Courses, students should also fulfill the Graduation Requirement for English Language Proficiency. Non-English major students who are eligible for a waiver of the required English Core Courses may submit a waiver request. If the request is approved, the students may be granted the 6 required English Core Course credits and deemed as fulfilling the Graduation Requirement for English Language Proficiency. For the details of the waiver policy and procedures, please refer to the NDHU Undergraduate Guidelines for Required Core Course Waivers.

2. International Students in International Programs:

Elective English courses or Second Foreign Languages (3 credits total)

3. English Levels of Students and English Courses:

(1) Upon enrollment, general undergraduate students’ levels of English, from basic to advanced, are divided into Level 1, Level 2, and Level 3 based on their results of the English subject of the General Scholastic Ability Test. Students need to take the three required English Core courses (6 credits/hours total) according to their respective English levels: “Online English Learning” (2 credits/hours), “English Communications,” and “English Reading and Writing.”

(2) In addition to the 6 credits of the required English Core courses, general undergraduate students also need to pass any one of the accepted English proficiency tests and have their passing results registered by the Language Center to meet the University Graduation Requirement of English Proficiency.

(3) General undergraduate students who do not pass an accepted English proficiency test, to meet the University Graduation Requirement of English Proficiency, may take two additional English courses (4-6 credits total) from the following types of courses: required English Core courses (of higher levels), Elective English courses, English-taught courses offered by individual colleges, departments, or programs that are recognized by the Language Center. However, the two additional English courses, which will count toward the total graduation course credits, do not count toward the University Core Curriculum credits. Please refer to the list of accepted additional English courses announced by the Language Center.

- (4) General undergraduate students who passed an accepted English proficiency test during their course-taking period or within two years before their enrollment may have their results registered by the Language Center and take required English Core courses or elective Language courses to meet the Language credit requirement (6 credits total).
- (5) The Campus English Proficiency Practice Test held by the Language Center in every semester is an accepted English proficiency test, and a passing result of the test can be used to meet the University Graduation Requirement of English Proficiency. The fees for the Campus English Proficiency Practice Test are decided by the Language Center.
- (6) Non-English major students who meet any one of the conditions for the English Course Waiver may apply for waiving the required English Core course credits (6 credits total). Students whose waiver applications are approved are accredited to meet the University Graduation Requirement of English Proficiency and granted the required English Core course credits (6 credits total). To apply for the waiver, please refer to the University Required Undergraduate Core Course Transfer and Waiver Guidelines.
- (7) Individual departments and programs may set out a higher graduation requirement of English proficiency for their students. Overseas Chinese students will take an English classification test arranged by the Office of International Affairs and administered by the Language Center. Students with disabilities, with the guidance of the Psychological Counseling Center, may take special English courses offered by the Language Center.

## V. Physical Education

1. Undergraduate Students should complete “Physical Education I,” “Physical Education II,” “Physical Education III,” and “Physical Education IV” (1 credit for each) before graduation; “Physical Education I” and “Physical Education II” should be taken respectively in the two semesters of the first study year. In addition, students need to pass the Physical Fitness Test before graduation. For information about acceptable test performance standards, please refer to the Physical Education Course Regulations by the Physical Education Center.
2. Students of Physical Education and Kinesiology need to take any four skill subject courses offered by the Department to fulfill the required credits for Physical Education.

**Note:** Starting Fall 2014, Physical Education courses for first-year students are automatically assigned. Also, starting Spring 2018, to prevent in each Physical Education class from abnormal change in the number of students and student attendance not following the original assignment, “Physical Education I” and “Physical Education II” cannot be added or dropped online; second-year and above students, transfer students, and resuming students may still add these two courses during the Additional Course-Add period. As for other Physical Education courses (“Physical Education III” and “Physical Education IV”), students may choose only one course during the Preliminary Course Selection period and more than one later during the Course Add/Drop period. In addition, Physical Education courses have their venue conditions and concerns for safety. Students are strongly advised to attend the first meeting of a course and read the course plan and syllabus carefully.

## VI. Service Learning

1. Students must complete Service Learning I and II sequentially before graduation. “Service Learning I” should be taken from students’ major departments. “Service Learning II” may be taken from either students’ major departments or other departments; for the latter case, students should consult with their major departments or programs on the eligibility for credit recognition.
2. “Service Learning I” and “Service Learning II” are 1 credit each since Fall 2013.
3. Students enrolled before Fall 2013 may choose to switch to the current University Core Curriculum Requirements. The previous 0-credit “Service Learning” taken can be recognized and count toward the new 1-credit Service Learning. The remaining required credits may be fulfilled with other University Core Courses.

## VII. Information Technology

Please refer to the NDHU Implementation Regulations of Computer Programming Competence Requirement for Graduation for Undergraduate Students. Students who are eligible for a waiver of the required Information Technology course may submit a waiver request and be granted 2 credits.

1. Based on their respective majors, undergraduate students are divided into Fundamental (students whose majors are not in Science, Engineering, or Information Management) and Advanced (students majoring in Science, Engineering, and Information management) Levels. Students may choose one Information Technology course (2 credits) according to their levels; apply for credit transfer with related courses in Information Technology taken (please see the list of recognized courses by the General Education Center); or request a course waiver and be granted the course credits (2 credits) by attending recognized competitions, certifications, or examinations (including those held by NDHU).

2. Students majoring in Science and Engineering (except for those majoring in Computer Science & Information Engineering, Electrical Engineering, Applied Mathematics, and Information Management) need to take “Intermediate Computer Programming” offered by the General Education Center or its related courses as listed in the Attachment; “Fundamental Computer Programming” cannot count toward the University Core Curriculum credits. Students of non-Science and Engineering majors need to take “Fundamental Computer Programming” offered by the General Education Center or its related courses as listed in the Attachment. Students majoring in Computer Science & Information Engineering, Electrical Engineering, Applied Mathematics, and Information Management need to take Information Technology related courses offered by respective departments to meet the required Information Technology course credits; Computer Programming courses taken that are offered by the General Education Center cannot count toward the University Core credits.

**VIII. Credit recognition of the University Core Courses taken related to the departments’ professional and specialized areas will be determined by the Curriculum Committees of individual departments/programs and colleges.**

**IX. Cross-campus distance courses are counted toward the Recognized Elective Core Course credits. Please refer to the latest course list provided by the General Education Center in every semester.**

**X. Students may decide for themselves the most applicable version of the University Core Curriculum Requirements to count course credits toward graduation in the first semester of their final study year. The selected version of requirements does not have to be of the same version-year as that of the course requirement of students’ majors.**

In principle, a University Core course must have a minimum of 20 students registered after the Course Add/Drop Period. Please follow the General Education Center announcements regarding additional course offering or course cancellation before or after a semester begins. Students are strongly advised to attend the first meeting of a course and read the course plan and syllabus (also the additional note) carefully. And please be prudent when arranging your course schedules. Since Fall 2016, the General Education Center no longer accepts and approves any requests to drop courses during the Additional Course Add period. Please check the General Education Center website and follow the Office of Academic Affairs for related information and regulations about the University Core courses.

**XI. The following English-taught University Core courses are NOT recognized as Additional Courses for the English Requirement for Graduation since Spring 2019. Please pay attention when choosing Additional Courses for the English Requirement for Graduation. For the list of courses eligible as Additional Courses for the English Requirement for Graduation, please consult the website of the Language Center.**

Course Code	Course Title
GC__B0060	Piano Playing and Music Appreciation
GC__17900	Introduction to Finance
GC__63160	Introduction to Economic Theory
GC__64680	Introduction to Chinese Calligraphy and Practice
GC__44700	Global Change and Sustainable Development

**Recognized Information Technology Related Professional & Specialized Courses from Individual Departments (Academic Year 2021)**

Department	Course Code	Course Title	Credits/Hours	Note
Applied Mathematics	CSIE10400	Introduction to Computer Programming (I)	3/3	In collaboration with the CSIE Dept.
	AM__11300	Software Implementations and Computation Experiments	3/3	
	CSIE20000	Data Structures	3/3	In collaboration with the CSIE Dept.
	CSIE10500	Introduction to Computer Programming (II)	3/3	In collaboration with the CSIE Dept.
	CSIE20800	Algorithm Design and Analysis	3/3	In collaboration with the CSIE Dept.
Physics	APH_50200	Computational Physics (I)	3/3	
	APH_51100	Computational Physics (II)	3/3	
	PHYS31100	Experimental Techniques in Physics (I)	3/3	
Chemistry	CHEM53800	Computational Chemistry	3/3	<ol style="list-style-type: none"> <li>1. GE Courses: Intermediate Computer Programming courses</li> <li>2. Chemistry Dept.: Computational Chemistry, Introduction to Structural Bioinformatics</li> <li>3. Fundamental Program of EE and CS: Introduction to Computer Programming (I)</li> <li>4. IM Dept.: Web Programming and other Computer Programming related courses by the CSIE Dept.</li> </ol>
	CHEM21800	Introduction to Structural Bioinformatics	3/3	
Life Science	L	Bioinformatics analysis	3/3	<ol style="list-style-type: none"> <li>1. GE Courses: Intermediate Computer Programming courses</li> <li>2. Chemistry Dept.: Computational Chemistry, Introduction to Structural Bioinformatics</li> <li>3. Fundamental Program of EE and CS: Introduction to Computer Programming (I)</li> </ol>
Electrical Engineering	CSIE10400	Introduction to Computer Programming (I)	3/3	In collaboration with the CSIE Dept.
Computer Science and Information Technology	CSIE10400	Introduction to Computer Programming (I)	3/3	General Program
	CSIEB0020	Introduction to Computer Programming (I)	3/3	International Program (English-taught course)
Opto-Electronic Engineering	OE__10390	Digital Design	3/3	
	OE__10350	Numerical analysis and calculation for Opto-electronics	3/3	
	OE__10400	Electro-Optical Engineering Digital Drawing	3/3	
Materials Science and Engineering	Students of Materials Science and Engineering should take “Intermediate Programming for Computational Materials Science” and “Intermediate Computer Programming” offered by the General Education Center.			
Information Management	IM__11200	Program Design	3/3	
	IM__11300	Advanced Program Design	3/3	

Natural Resources and Environmental Studies	NRES__20230	Fundamental Computer Programing–R Language	3/3	
Special Education	SPE__22520	The Development and Application of SMART Communication System	2/2	

Description:

1. Starting Fall 106, undergraduate students need to take required Information Technology course (2 credits) to meet the University Core Requirements. Courses that incorporate computer programming offered by individual departments or programs can also be recognized (see the table above) and count toward the required Information Technology credits. Students who fulfill “Information Technology” course by credit transfer from such courses should take other eligible courses to meet the total course credits of the University Core Requirements. If there are no Information Technology related courses in individual departments or programs, students of Science and Engineering (except for those of CSIE, EE, and AM) should take Intermediate Computer Programming courses offered by the General Education Center or other Intermediate Computer Programming courses in the table above; students other than Science, Engineering, and IM should take Fundamental Computer Programing courses offered by the General Education Center or other related courses in the table above.
2. Students of CSIE, EE, AM, and IM should take Information Technology related courses offered by their respective departments to fulfill the Information Technology credits of the University Core Requirements; Computer Programming courses taken that are offered by the General Education Center cannot count toward the University Core Curriculum credits.

# University Core Curriculum

(37 credits)

## Languages

(9 credits)

### ❖ Chinese (3 or 6 credits)

- \* Chinese Language Ability and Education
- \* Mandarin Chinese

### ❖ English (6 or 3 credits)

- \* Online English Learning
- \* English Communications
- \* English Reading and Writing
- \* Elective English or Second Foreign Languages

*Students also need to meet the English Proficiency Graduation Requirements.*

## Information Technology

(2 credits)

- ❖ Fundamental Computer Programming
- ❖ Intermediate Computer Programming

## Physical Education

(4 credits)

- ❖ PE I
- ❖ PE II
- ❖ PE III
- ❖ PE IV  
(4 credits total)

*Students also need to pass the Physical Fitness Test before graduation.*

### ■ Military Education (Non-required)

- \* All-out Defense Education  
Military Training

## Service Learning

(2 credits)

- ❖ Service Learning I  
(Taken from students' major depts. or programs)
- ❖ Service Learning II  
(Taken from or outside of students' major depts. or programs)

*Credit recognition is decided by students' major depts. or programs when taken outside.*

## Elective Core Courses

(20 credits)

*At least 1 course from each of 3 Academic Categories & Recognized Electives*

### Required Elective Core Categories

- ❖ Rational Thinking
- ❖ Cultural Literacy
- ❖ Local Commitment

### Recognized Electives

- ❖ "GC" Courses
- ❖ College Foundational Courses or Department Core & Specialized Courses Outside of Students' Major Depts. or Programs