

開南管理學院 92 年度第 1 學期 **資訊管理** 學系科目教學計劃表

| 科目代碼 | 科目名稱 | 授課教師 | 修別 | 開課年級 | 學分數 | 每週時數 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|-------|-----|------|----|----|----|----|---|------------------|--------------|--|---|------------------|---|--|---|------------------|-------------------------------|--|---|------------------|-------------------|--|---|------------------|---------------------------------|--|---|------------------|---------------------------|--|---|------------------|---------------------------|--|---|------------------|----------------|--|---|------------------|-------|-----|----|------------------|------------------|--|----|------------------|---------------------|--|----|------------------|---------------------|--|----|------------------|--------------------------|--|----|------------------|--------------------|--|----|------------------|-----------------------|--|----|------------------|-------------------|--|----|-----------------------|-------------|--|----|------------------|-------|-----|
| | 中文：演算法分析與設計 | 鄧姚文 | <input type="checkbox"/> 必修 <input checked="" type="checkbox"/> 選修 | 1 年 班 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 英文：Algorithms | 先修課程 | 資料結構 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 教學目標與內容 | <p>本課程介紹各種演算法分析與設計相關的課題，內容包含複雜度分析、NP-Completeness 理論、Greedy Method、Divide-and-Conquer、Tree Search、Prune-and-Search、Dynamic Programming、Approximation Algorithms、Amortized Analysis、Randomized Algorithms、On-Line Algorithms 等主題。主要授課的對象為資訊管理學系碩士班的同學，修課的同學須具備下列課程之基礎：</p> <ul style="list-style-type: none"> 離散數學（數列、函數、指數對數、排列組合、機率、有限狀態機、數值函數、布林代數、...） 程式設計（至少熟悉一種程式語言） 資料結構（Array、Linked List、Stack、Queue、Hashing、Tree、Graph、Searching、Sorting、...） | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 實施方法 | <input checked="" type="checkbox"/> 講解法。 <input type="checkbox"/> 實作法。 <input type="checkbox"/> 討論法。 <input type="checkbox"/> 演習法。 <input type="checkbox"/> 問答法。 <input type="checkbox"/> 其他（ ）。 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 評量方式 | 期中測驗 <input checked="" type="checkbox"/> <input type="checkbox"/> %。 期末測驗 <input checked="" type="checkbox"/> <input type="checkbox"/> %。 平時成績 <input checked="" type="checkbox"/> <input type="checkbox"/> %。 其他（ ）成績 <input type="checkbox"/> <input type="checkbox"/> %。 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 授課使用及參考書籍 | <p>Lee, R. C. T., Chang, R. C., Tseng, S. S. and Tsai, Y. T. (2002): <i>Introduction to the Design and Analysis of Algorithms</i>, 旗標出版股份有限公司 （作者：李家同、曾憲雄、張瑞川、蔡英德，ISBN: 957-717-777-8，旗標書號：F7823） Sartaj Sahni (2000): <i>Data Structures, Algorithms, and Applications in Java</i>, McGraw-Hill</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 科目簡介(可含大綱及教學進度)： | <table border="1"> <thead> <tr> <th>週次</th> <th>日期</th> <th>進度</th> <th>備註</th> </tr> </thead> <tbody> <tr><td>1</td><td>2003/09/08~09/12</td><td>Introduction</td><td></td></tr> <tr><td>2</td><td>2003/09/15~09/19</td><td>The Complexity of Algorithms and the Lower Bounds of Problems</td><td></td></tr> <tr><td>3</td><td>2003/09/22~09/26</td><td>The Theory of NP-Completeness</td><td></td></tr> <tr><td>4</td><td>2003/09/29~10/03</td><td>The Greedy Method</td><td></td></tr> <tr><td>5</td><td>2003/10/06~10/10</td><td>The Divide-and-Conquer Strategy</td><td></td></tr> <tr><td>6</td><td>2003/10/13~10/17</td><td>Tree Searching Strategies</td><td></td></tr> <tr><td>7</td><td>2003/10/20~10/24</td><td>Tree Searching Strategies</td><td></td></tr> <tr><td>8</td><td>2003/10/27~10/31</td><td>Midterm Review</td><td></td></tr> <tr><td>9</td><td>2003/11/03~11/07</td><td>期中考試週</td><td>期中考</td></tr> <tr><td>10</td><td>2003/11/10~11/14</td><td>Prune-and-Search</td><td></td></tr> <tr><td>11</td><td>2003/11/17~11/21</td><td>Dynamic Programming</td><td></td></tr> <tr><td>12</td><td>2003/11/24~11/28</td><td>Dynamic Programming</td><td></td></tr> <tr><td>13</td><td>2003/12/01~12/05</td><td>Approximation Algorithms</td><td></td></tr> <tr><td>14</td><td>2003/12/08~12/12</td><td>Amortized Analysis</td><td></td></tr> <tr><td>15</td><td>2003/12/15~12/19</td><td>Randomized Algorithms</td><td></td></tr> <tr><td>16</td><td>2003/12/22~12/26</td><td>On-Line Algorithm</td><td></td></tr> <tr><td>17</td><td>2003/12/29~2004/01/02</td><td>Term Review</td><td></td></tr> <tr><td>18</td><td>2004/01/05~01/09</td><td>期末考試週</td><td>期末考</td></tr> </tbody> </table> | | | | | | 週次 | 日期 | 進度 | 備註 | 1 | 2003/09/08~09/12 | Introduction | | 2 | 2003/09/15~09/19 | The Complexity of Algorithms and the Lower Bounds of Problems | | 3 | 2003/09/22~09/26 | The Theory of NP-Completeness | | 4 | 2003/09/29~10/03 | The Greedy Method | | 5 | 2003/10/06~10/10 | The Divide-and-Conquer Strategy | | 6 | 2003/10/13~10/17 | Tree Searching Strategies | | 7 | 2003/10/20~10/24 | Tree Searching Strategies | | 8 | 2003/10/27~10/31 | Midterm Review | | 9 | 2003/11/03~11/07 | 期中考試週 | 期中考 | 10 | 2003/11/10~11/14 | Prune-and-Search | | 11 | 2003/11/17~11/21 | Dynamic Programming | | 12 | 2003/11/24~11/28 | Dynamic Programming | | 13 | 2003/12/01~12/05 | Approximation Algorithms | | 14 | 2003/12/08~12/12 | Amortized Analysis | | 15 | 2003/12/15~12/19 | Randomized Algorithms | | 16 | 2003/12/22~12/26 | On-Line Algorithm | | 17 | 2003/12/29~2004/01/02 | Term Review | | 18 | 2004/01/05~01/09 | 期末考試週 | 期末考 |
| 週次 | 日期 | 進度 | 備註 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2003/09/08~09/12 | Introduction | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 2003/09/15~09/19 | The Complexity of Algorithms and the Lower Bounds of Problems | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 2003/09/22~09/26 | The Theory of NP-Completeness | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 2003/09/29~10/03 | The Greedy Method | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 2003/10/06~10/10 | The Divide-and-Conquer Strategy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 2003/10/13~10/17 | Tree Searching Strategies | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 2003/10/20~10/24 | Tree Searching Strategies | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 2003/10/27~10/31 | Midterm Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 2003/11/03~11/07 | 期中考試週 | 期中考 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 2003/11/10~11/14 | Prune-and-Search | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 2003/11/17~11/21 | Dynamic Programming | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 2003/11/24~11/28 | Dynamic Programming | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 2003/12/01~12/05 | Approximation Algorithms | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 2003/12/08~12/12 | Amortized Analysis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 2003/12/15~12/19 | Randomized Algorithms | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 2003/12/22~12/26 | On-Line Algorithm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 2003/12/29~2004/01/02 | Term Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 2004/01/05~01/09 | 期末考試週 | 期末考 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>說明：1.授課教師於學期前填寫本表，經課程委員會審核後，影印分送給教師所屬課程委員會召集人，授課班級所屬系、所及教務處課務組；並於開始上課時，將本內容向學生說明。2.本表於91.4.23第四次校課程委員會討論通過。</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

課程委員會召集人：

系主任
邱瑞滿

授課教師：

鄧姚文
鄧姚文