

# 강의계획서

|      |                 |      |                   |          |          |            |                                  |
|------|-----------------|------|-------------------|----------|----------|------------|----------------------------------|
| 교과목명 | 알고리즘            | 주야   | 주간                | 교과<br>코드 | 20060621 | 이수구분       | 전공선택                             |
| 학점   | 3               | 주당시수 | 이론(2) / 실기(2)     |          |          | 학점구성       | 이론(1) 실습(1) 설<br>계(1)            |
| 개설학년 | 2               | 개설학기 | 2학기               |          |          | 강의시간       | 화6,7,8,9                         |
| 담당교수 | 김종찬             | 상담일시 | Thur. 10:00-12:00 | 연구실      |          |            |                                  |
| 담당조교 | 박정석             | 상담일시 | Tue. 10:00-18:00  | 사무실      |          |            |                                  |
| 인증구분 | 인증(O) 비인증(<br>) | 교과구분 | 전공_설계             |          |          | 선수권장<br>과목 | Discrete Math., C<br>Programming |

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| 교과목의<br>교육목적 | <ol style="list-style-type: none"> <li>1. To understand the definition of problems and algorithms</li> <li>2. To learn the methodology of algorithm analysis</li> <li>3. To learn design techniques of algorithms</li> <li>4. To learn time complexity, space complexity, P-class, NP-class, and unsolvable problems</li> </ol> |
| 교과목의<br>개요   | <p>This course covers the following topics.</p> <ol style="list-style-type: none"> <li>1. Definition of problems and algorithms</li> <li>2. Big-oh, time complexity, and analysis of algorithms</li> <li>3. Design techniques</li> <li>4. Computational complexity, Undecidability</li> </ol>                                   |

|    | 구분       | 교재명                           | 저자                           | 출판사                | 출판년도 |
|----|----------|-------------------------------|------------------------------|--------------------|------|
| 교재 | 주교재      | Foundations of Algorithms     | Neapolitan                   | Jones and Bartlett |      |
|    | 참고<br>서적 | Data Structures and Algorithm | Aho, Hopcroft,<br>and Ullman | Prentice Hall      |      |
|    | 비고       |                               |                              |                    |      |

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| 강의진행<br>방식 | <p>강의(O) 토의(O) 과제평가(O) 현장학습( ) Computer사용(O)<br/>Beam Project사용(O) OHP사용( ) VTR사용( ) 기타( )</p> <p>※ 해당란에 모두 표시</p> |
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| 강의평가<br>방식 | <p>정기평가(50%) 수시평가(0%) 과제평가(30%) 보고서(0%) 퀴즈(0%)<br/>실험(0%) 프로젝트(10%) 발표(0%) 출석평가(10%) 기타(0%)</p> <p>※ 합은 100%</p> |
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## 주별 강의진행계획

| 주  | 강의내용   | 비고                                  |
|----|--|-------------------------------------|
| 1  | Definition of Algorithms                         | Homework:<br>Programming assignment |
| 2  | Analysis of Algorithms                           | Homework:<br>Programming assignment |
| 3  | Sorting Problem (I)                              | Homework:<br>Programming assignment |
| 4  | Sorting Problem (II)                             | Homework:<br>Programming assignment |
| 5  | Divide-and-Conquer                               | Homework:<br>Programming assignment |
| 6  | Searching Problem (I)                            | Homework:<br>Programming assignment |
| 7  | Midterm  |                                     |
| 8  | Searching Problem (II)                           | Homework:<br>Programming assignment |
| 9  | Dynamic Programming                              | Homework:<br>Programming assignment |
| 10 | Greedy Algorim                                   | Homework:<br>Programming assignment |
| 11 | Backtracking                                     | Homework:<br>Programming assignment |
| 12 | Branch-and-Bound                                 | Homework:<br>Programming assignment |
| 13 | Computational Complexity and Intractability (I)  | Homework:<br>Programming assignment |
| 14 | Computational Complexity and Intractability (II) | Homework:<br>Programming assignment |
| 15 | Final Test                                       |                                     |