④ 科目ナンバリング	TMA-MEE328E
<b>④</b> 開講年度	2023
@ 科目名	(IMAC-U)情報科学基礎Ⅱ
🧶 科目名(英語)	(IMAC-U)Fundamentals of Information Science II
◎ 単位数	2
🧶 担当教員	佐藤 雅之
<ul><li>メディア授業科目</li><li>/Course of Media Class</li></ul>	

◎ 開講言語	English									
授業の 目的・ 概要及び 達成方法等										
授業の 目的・ ・ 概要及び 達成方法等 (E)	This class is given by using Google Classroom (class code: 2xb5nxb)  Aims: Students will acquire the basic knowledge about algorithms and data structures.  Descriptions: Evaluation methods and programming techniques for making good programs are discussed.  Goal: On completing the course, students will have the ability of designing and making good programs.									
他の授業 科目との 号連及び 履修上の 注意										
他の授業 科目との 関連及び 履修上の 注意(E)	Prerequisites for regular course students are "Practice of Information Processing" and "Computer Seminar I." Taking "Fundamentals of Information Science I" is strongly recommended. Prerequisites for JYPE/DEEP/IMAC-U students are the similar courses as above. Students should have some knowledge about a computer language, preferably C or Java.									
◎ 授業計画										
❷ 授業計画 (E)	1. Introduction of this course, Computation, Algorithms 2. Evaluation of computational complexity 3. Data structures, Abstract Data Types (ADTs) 4. Basic data structures: array, list 5. Basic data structures: stack, queue 6. Basic data structures: graph, tree 7. Basic data structures: set, table (dictionary), hashing 8. Priority queue, heap 9. Binary search tree and Balanced search tree 10. Sorting: bubble sort, shell sort, bucket sort, radix sort, insertion sort 11. Sorting: heap sort, quick sort, merge sort 12. Graph searching: breadth-first search, depth-first search 13. Graph algorithms: minimum spanning tree, shortest path problem 14. Optimization problems 15. Wrap-up and Final Examination									
─ 授業時間外 学修										
── 授業時間外 学修(E)	Review: In order to understand the topics better, you should read again the handouts and the reference materials following the lectures.									
成績評価 9 方法及び 基準										
成績評価 参 方法及び 基準(E)	The grade will come from the in-class final exam and two or three assignments. The final exam might be changed to an additional assignment.									
教科書 および 参考書					出版					

@	1. [Introduction to Algorithms]	Thomas A. Standish	Thomas H. Corme, et. al	2009	9780262033848	reference
	2. 『Algorithms』	Kevin Wayne and Robert Sedgewick	Addison-Wesley Professional; fourth edition	2011	032157351X	reference
◎ 添付  ○ ファイル  ○						
<i>働</i> オフィス アワー						
● オフィス アワー(E)						
◎ 備考						
実務・ 実践的授業 /Practical business ※Oは、 実務・実践の どを示す。 /Note: "O' Indicates the practica business						
その他						
🧶 更新日付	2023/03/22 23:05					

1単位の授業科目は、45時間の学修を必要とする内容をもって構成することを標準としています。1単位の修得に必要となる学修時間の目安は、「講義・演習」については15~30時間に授業および授業時間外学修(予習・復習など)30~15時間、「実験、実習及び実技」については30~45時間の授業および授業時間外学修(予習・復習など)15~0時間です。
One-credit courses require 45 hours of study. In lecture and exercise-based classes, one credit consists of 15-30 hours of class time and 30-15 hours of preparation and review outside od class. In laboratory, practical skill classes, one credit consists of 30-45 hours of class time and 15-0 hours of preparation and review outside of

class.