

| Course Information                                                                                                                |                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Course title                                                                                                                      | Music Signal Analysis and Retrieval                                                                                                                                |
| Semester                                                                                                                          | 102-2                                                                                                                                                              |
| Designated for                                                                                                                    | COLLEGE OF ELECTRICAL ENGINEERING AND<br>COMPUTER SCIENCE GRADUATE INSTITUTE<br>OF NETWORKING AND MULTIMEDIA                                                       |
| Instructor                                                                                                                        | JYH-SHING ROGER JANG                                                                                                                                               |
| Curriculum Number                                                                                                                 | NM7613                                                                                                                                                             |
| Curriculum Identity Number                                                                                                        | 944 U0120                                                                                                                                                          |
| Credits                                                                                                                           | 3                                                                                                                                                                  |
| Full/Half<br>Yr.                                                                                                                  | Half                                                                                                                                                               |
| Required/<br>Elective                                                                                                             | Elective                                                                                                                                                           |
| Time                                                                                                                              | Thursday 789                                                                                                                                                       |
| Remarks                                                                                                                           | The upper limit of the number of students: 80.                                                                                                                     |
| Table of Core Capabilities and<br>Curriculum Planning                                                                             | <a href="#">Table of Core Capabilities and Curriculum Planning</a>                                                                                                 |
| Course Syllabus                                                                                                                   |                                                                                                                                                                    |
| <b>Please respect the intellectual property rights of others and do not copy any of the course information without permission</b> |                                                                                                                                                                    |
| Course Description                                                                                                                | 本課程將提供音樂訊號分析與檢索的基本概念，並學習如何使用電腦程式來實作這些方法，以便對音樂訊號進行各種處理、分析、檢索、合成等，符合音樂在多媒體方面的各種應用需求。                                                                                 |
| Course Objective                                                                                                                  | 本課程的目標在於讓修課同學瞭解下列事項：<br>音樂訊號處理的基本方法。<br>音樂特徵擷取，如音高追蹤、節拍追蹤、起點強度計算等。<br>音樂檢索及分類，如哼唱選歌、曲風分類、情緒分類、翻唱歌偵測、音樂聲紋辨識、樂譜對位等。<br>收集大量音樂資料，以便進行分析與建模。<br>以 MATLAB 實作各種方法與系統，並參加 |

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|                    | MIREX 國際音樂檢索比賽。 |
| Course Requirement |                 |
| Office Hours       |                 |
| References         | MATLAB 程式設計入門篇  |
| Designated reading |                 |
| Grading            |                 |