

Medical Microsensor

Offered in 114-2

Save

Add Preselect

Serial Number

56317

Course Number

DBME5042

Course Identifier

528 U0630

No Class

3 Credits

Elective

DEPARTMENT OF BIOMEDICAL ENG

CHII-WANN LIN

Tue 2, 3, 4

Please contact the department office for more information

Type 2

20 Student Quota

Notes

The course is conducted in English ° Rm. 414, Yonglin Biomedical Engineering Hall
、 、 、 The course is conducted in English ° Classroom : Rm. 414, Yonglin Biomedical Engineering Hall

Limits on Course Adding / Dropping

Restriction: juniors and beyond **and** Restriction: within this department (including students taking minor and dual degree program)

NTU Enrollment Status

Enrolled	Remaining	Registered
0 / 20	20	0

Course Description

The continuous developments in genomics, proteomics, and metabolomics will help to drive the use of micro/nano sensor technologies for personalized medicine or companion medicine. This course aims to provide the necessary background

NTU 20

 No Specialization Program

 English

 NTU COOL

 Core Capabilities and Curriculum Planning

knowledge for multi-disciplinary students on both sides of medical applications and engineering approaches. Both physical-based and bio-chemical-based micro-sensors will be covered in the lectures.

Course Objective

1. Prepare students for the multi-disciplinary natures of micro-sensors with physical & chemical fundamentals.
2. Design and fabrication processes of integrated sensor systems for clinical applications.
3. Critical assessments of the static and dynamic performance of biomedical sensors.

Course Requirement

1. General background in Physics, Biology, and Engineering Mathematics.
2. Reading assignments before each class and participate in active discussion.
3. Homework assignment

 Expected weekly study hours before and/or after class

Office Hour

Tue 15:00 - 17:50

 Designated Reading

References

1. Fundamentals of Microfabrication, Marc Madou, CRC Press
2. Microsensors principles and applications, Julian W. Gardner, Wiley, Inc.
3. Introduction to bioanalytical sensors, Alice J. Cunningham, Wiley, Inc.
4. Microreactors new technology for modern chemistry, Wolfgang Ehrfeld, Volker Hesel, Holger Lowe, Wiley-VCH, 2000.
5. Biomedical Sensors and Instruments 2nd Ed. CRC Press Tatsuo Tagawa; Toshiyo Tamura; P. Ake Oberg;

Grading

1. NTU has not set an upper limit on the percentage of A+ grades.
2. NTU uses a letter grade system for assessment. The grade percentage ranges and the single-subject grade conversion table in the NATIONAL TAIWAN UNIVERSITY Regulations Governing Academic Grading are for reference only. Instructors may adjust the percentage ranges according to the grade definitions. For more information, see [the Assessment for Learning Section](#) °

Adjustment methods for students

Adjustment

Method	Description
A3	提供學生彈性出席課程方式 Provide students with flexible ways of attending courses
B1	延長作業繳交期限 Extension of the deadline for submitting assignments

Adjustment

Method

Description

B2

書面報告取代口頭報告

Written report replaces oral report

B6

學生與授課老師協議改以其他形式呈現

Mutual agreement to present in other ways between students and instructors

D1

由師生雙方議定

Negotiated by both teachers and students



Make-up Class Information



Course Schedule

Sponsor |  華南銀行
HUA NAN BANK

NTU Course

NTU | NTU ACA

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