





# UNIVERSITI SAINS MALAYSIA POSTGRADUATE PERFECTIVE IN DEVELOPMENT OF MAKING 4.0 CURRICULUM

#### BY PROF DR OTHMAN SULAIMAN

Erasmus + KA2 –Improving Malaysian HE Knowledge towards a Wood and Furniture Industry4.0 - MAKING4.0

Ref. no. 598783-EPP-1-2018-1-ES-EPPKA2-CBHE-JP - MAKING 4.0





- Main Campus in Penang
- × Started in 1969
- Current students around 30,000
- 26 Academic programme including Engineeringand Medical
- × 17 Research Centre
- Recognise as Research Intensive University (RU) and also selected as Accelerated Programme for Excelence (APEX) status

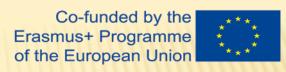




### UNIVERSITI SAINS MALAYSIA

- Universiti Sains Malaysia
- × 3 Campuses
  - + Main Campus
  - + Engineering Campus
  - + MedicalCampus
- Other campuses
  - + IPS Kuala Lumpur





# USM PERFECTIVE

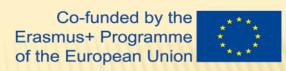
Master in Furniture Design



### MODE OF PROGRAMME AVAILABLE IN USM

- Research 100% research
- Course Work < than 50% research</p>
- Mix mode Course work 50%, Research 50%

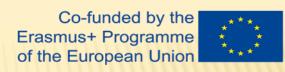




### COURSE WORK

- Normally only 30% research
- Base on unit each unit normally comprise 50 minutes of lecture hour
- Each unit also mean 10-12 hours of lecture per sem plus 2-4 hours of enhancement. This include tutorial, assignment or other work.

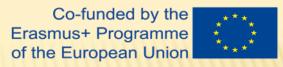




# COURSE WORK

- Lecture unit will be 34-38 units
- Research (Project) 6-10 unit
- \* Total Unit 40-44 units





# PROGRAMME STRUCTURE

Course Type	Required Unit
Core Course	16-18
Elective	16-18
Project	6-10
Units for graduation	40-44



# DURATION OF THE MASTER'S COURSE

- \* Full time Minimum 2 semester
- \* Fulltime Maximum 4 semester





# CORE COURSE - MAKING 4.0 FURNITURE DESIGN

Around 4-6 courses of 3-4 units each and with the total of 16-18 Units

Course	Unit
1) Course 1 - Wood Science and Technology (School of Industrial Technology, USM)	4
2) Course 2 - Furniture Design (School of Arts, USM)	3
3) Course 3 - Furniture Production (School of Industrial Technology, USM)	4
4) Course 4 -	4
5) Course 5	3
Total	18



# **ELECTIVE COURSE**

Course	Unit
1) Furniture Product Design	4
2) Design Management	3
3) Design method	4
4) Prototype design	3
5) Workshop Technology	4
6) Elective course 1	4
7) Elective course 2	4
Total (need only 18 units to fulfilled requirement of University)	



## PROJECT

- This is a small research during the final year of the programme
- Units for this is 6 units
- The project need to be discussed with a potential supervisor
- Title must be related to Making 4.0 Furniture design.
- Possible to be taken in EU partners



# MORE OPTION FOR CORE AND ELECTIVE COURSE

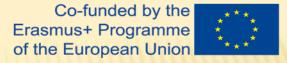
Existing course at our EU partner could be incorporate with our programme such as at UPCT, WULS, CETEM, KIT



### EG. WULS

- Operation of CNC machine tools (12 lecture hours = equivalent to out 1unit)
- Computer Aided CAD design (14 exercise hours = 1unit)
- Computer Aided engineering CAE (14 exercise hours = 1 unit)
- Modern trend in the constructions of machine tools (12 lecture hours = 1 unit) WULS
- Furniture (6 lecture hours and 6 exercise hours = 1unit)
- Furniture mechanics (5 lecture hours and 10 exercise hour = 2 unit)





- Subject	lectures (Hrs.)	exercises (Hrs.)
Designing and implementing a new product	6	6
Design thinking - design thinking	10	-
Learning about wood	6	14
Wood materials	10	-
Wood mechanics	6	6
Operation of CNC machine tools	12	-
Computer aided CAD design	-	14
Furniture	6	6
Furniture mechanics	5	10
Exotic wood	6	10
Gluing technology	6	-
Refining wood and wood materials	15	-
Modern trends in the construction of machine tools	12	-
Computer aided engineering CAE	-	14
Together	100	80



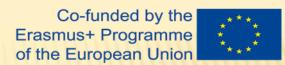
#### PROPOSAL FOR MASTER IN FURNITURE DESIGN 4.0

- Student register at respective university in partner institution
- Most of core courses and elective courses need to be taken host university
- Part of the programme either core or elective course can be taken by student in EU partner
- Course structure that are very close to Furniture Design are those offered by WULS
- Student can also do their project in EU partners



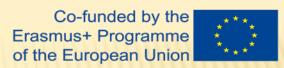
- The programme can also be from EU to Malaysia Higher Education.
- Funding Students need to find their source of funding to support themself
- University might consider free accommodation in hostel and free tuition fee.





# NEED MORE DISCUSSION





### DZIĘKUJĘ CI BARDZO

### TERIMA KASIH