



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 Engineering and Medical
- ✘ 17 Research Centre
- ✘ Recognise as Research Intensive University (RIU) and also selected as Accelerated Programme for Excellence (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
- ✘ 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 themselves
- ✘ University might consider – free accommodation in hostel and free tuition fee.



NEED MORE DISCUSSION



DZIĘKUJĘ CI BARDZO

TERIMA KASIH