

- (1) **Kod Kursus:** **KKKP3134**
Course Code:
- (2) **Nama Kursus:** **Proses Pembuatan II**
Course Title: *Manufacturing Process II*
- (3) **Taraf kursus:** **Jabatan (Wajib)**
Course definition: *Department (Compulsory)*
- (4) **Sinopsis:**
Synopsis:

Kursus dimulakan dengan memberi pelajar pengetahuan, kefahaman dan aplikasi proses-proses pembuatan berasaskan bukan logam (cth : polimer, komposit, getah), pemesinan tak lazim (cth : EDM, ECM, dan pemotong jet air) dan metalurgi serbuk (serbuk logam, seramik, penekanan serbuk, penyuntikan logam serbuk). Berdasarkan produk-produk yang ada di pasaran dan teknologi proses-proses pembuatan semasa. Perbincangan pembelajaran berdasarkan masalah (PBL) dijalankan bagi menerapkan keupayaan analisa, sintesis dan menilai produk dalam proses pembuatan berasaskan bahan utama, geometri, kualiti permukaan, kuantiti pembuatan, kekangan sesuatu proses, dan kos pembuatan. Pendedahan tentang kaedah penghasilan pencetakan sulung cepat dan pembuatan elektronik (cth : litar bersepadu, pemasangan cip). Isu-isu proses pembuatan lestari dan masalah kejuruteraan kompleks juga diberi penekanan di dalam pembelajaran dan pembincangan proses-proses pembuatan berkenaan.

The course starts with conveying knowledge, understanding, and application of non metal manufacturing processes (Example polyon-traditional machining (Example EDM,ECM, and water jet machining) and powder metallurgy (metal powder, ceramic, powder compaction, powder injection molding). Based on products in the market and current manufacturing processes technology. Discussion based on problem based learning (PBL) will be conducted to improve ability to analyse, sythesize and evaluate products in manufactruing process based on main material, geometry, surface quality, manufacturing quantity, constrand in process, and manufacturing cost. Introduction to rapid prototyping and electronic fabrication (example integrated design, chip assembly). Issues in sustainable manufacturing and problems in complex engineering will also be stressed in teaching and discussion of manufacturing processes.

- (5) **Pra-keperluan (jika ada):**

Pre-requisite (if any):

KKKM1513 Sains Bahan

KKKM1513 Material Science

KKKP 2024 Proses Pembuatan

KKKP 2024 Manufacturing Process I

(6) Bacaan Asas:

References:

Groover M.P., 2012, *Fundamentals of Modern Manufacturing: Materials, Processes and Systems*, 4th Edition, Wiley

Kalpakjian S., 2010, *Manufacturing Process for Engineering Materials*, 6th Edition, Prentice Hall

Degarmo E.P., 2009, *Materials and Processes in Manufacturing*, 6th Edition, Prentice Hall

Schey J.A., 2000, *Introduction to Manufacturing Process*, 3rd Edition, McGraw Hill

Bruce R.G., 2003, *Modern Material and Manufacturing Processes*, 3rd Edition, Prentice Hall