

- (1) **Kod Kursus:** **KKKP4143**
Course Code:
- (2) **Nama Kursus:** **Penuangan dan Proses Serbuk**
Course Title: *Casting and Powder Processes*
- (3) **Taraf kursus:** **Jabatan (Elektif)**
Course Level: *Department (Elective)*

- (4) **Sinopsis:**
Synopsis:

Memberi pelajar pendedahan, pengetahuan, pemahaman dan sintesis dalam tajuk-tajuk seperti prinsip asas, hubungan bentuk, sifat dan kos dengan proses penuangan, sifat-sifat produk yang dituang bagi besi tuangan, keluli, aloi dan sebagainya, jenis-jenis proses tuangan pembangunan dalam proses tuangan. Seterusnya pembuatan dan sifat produk serbuk seperti operasi pemprosesan serbuk, teknologi penghasilan serbuk, proses pemadatan, proses endapan, proses suntikan logam, parameter reka bentuk dalam teknologi serbuk serta pemprosesan perkakas daripada proses serbuk dibincangkan.

This course covers topics such as basic principles of casting, relationship between shape, properties and cost in casting processes, properties of the products produced via casting technique, types of casting and the development in casting processes. Powder processing technology such as techniques producing powders, compaction processes, spray forming, metal injection moulding, design parameters as well as tooling in powder technology will also be discussed.

- (5) **Pra-keperluan (jika ada):**
Pre-requisite (if any) :

KKKP2024 Proses Pembuatan I
KKKP2024 Manufacturing Process
KKP3134 Proses Pembuatan II
KKKP3134 Manufacturing Process II

- (6) **Bacaan Asas:**
References:

Pease, F.C. & West W.G., 2002, *Fundamental of Powder Metallurgy*, MDIF
Rao, P.N., 2001, *Manufacturing Technology: Foundary, Forming and Welding*, 2nd Edition, McGraw Hill

Peter, W.L. et al., 1998, *ASM Handbook. Vol 7. Powder Metal Technologies and Applications*. New York: ASM International.

Cambell, J., 2003, *Castings*, 2nd Edition Oxford, UK: Butterworth-Heinemann.

Groover, M.P., 2012, *Fundamentals of Modern Manufacturing*, 4th Edition, John Wiley & Sons, New York.

Kalpakjian, S., 2010, *Manufacturing Process for Manufacturing Engineering Material*, 6th Edition, New York: Addison Wesley.

Walker, J.M., 1996, *Engineering Handbook. Society of Manufacturing Engineers*, New York: Marcel Dekker.