

## DESCRIPTION OF THE COURSE

Name of the course: <b>Computer Integrated Manufacturing II</b>	Code: BIE64	Semester: 8
Type of teaching: Lectures and laboratory work	Lessons per week: L – 2 hours;LW –1.5 hours	Number of credits: 4

**COURSE STATUS IN THE CURRICULUM:** Compulsory for the students specialty Industrial Engineering BEng programme of the English Language Faculty of Engineering.

**AIMS AND OBJECTIVES OF THE COURSE:** To introduce the basic knowledge and experience in the implementation and typical strategies of CIM, taking place in industrial plants and in the production automation.

**DESCRIPTION OF THE COURSE:** The main topics concern: implementation of the Computer Integrated Manufacturing (CIM) in the industry, CAPP and MRP-I, MRP-II, MRP-III, Multimedia Technologies in CIM, Information flow and Shop Floor Control in CIM, Factory of the Future, CIM Hardware and software systems and examples, Intelligent manufacturing., Virtual and e-Manufacturing, Knowledge based systems.

**PREREQUISITES:** Control Engineering, Advanced Control Theory, Systems Modelling and Simulation, Manufacturing and Production systems, CIM I.

**TEACHING METHODS:** Lectures, using slides, case studies, tutorial and laboratory work from laboratory manual, work in teams, protocols preparation and defence, presentation of the special report in the field of CIM.

**METHOD OF ASSESSMENT:** 2 tests during the semester (60%), Report (30%) plus laboratories (10%).

**INSTRUCTIONAL LANGUAGE:** English.

### **BIBLIOGRAPHY:**

1. Groover, M., E. Zimmers, CAD/CAM Computer Aided Design and Manufacturing, Prentice Hall International Inc., 1984;
2. Mitchell., F., Systems. An Introduction to Computer Integrated Manufacturing, Prentice Hall International Inc., 1991;
3. Shah, J., M. Mantyla. Parametric and feature Based CAD/CAM. John Wiley and Sons Inc., 1996;
4. Groover, M., Automation, Production Systems and CIM, Prentice Hall International Inc./., 1987;
5. Krafter, R., T. Cheniewski, M. Negiu. Robotic Engineering, Prentice Hall International Inc., 1989;
6. Jackson, P., Introduction to Expert Systems. Addison Wesley. 1990.