

**GHEORGHE ASACHI TECHNICAL UNIVERSITY OF IASI**  
**Faculty of Machine Manufacturing and Industrial Management**  
**Department of Machine Manufacturing Technology**

Competition for **Associate Professor** position no. 12 in the payroll list of the department

**Courses:** Computer-Aided Design of Products – CAD systems  
Fundamentals of Computer-Aided Design  
Advanced Parametric Design

**Competition topics**

for **Associate Professor** position no. 12 in the payroll list of the department

1. IT concepts and systems in Integrated Engineering;
2. Basic concepts – CAD, CAGD, CAID;
3. Computerized representation of shapes; Boundary representation; CSG model; Boolean operations;
4. Principle variants in 3D modeling;
5. Wireframe modeling;
6. Surface modeling;
7. Characteristics of 3D solid modeling;
8. Design particularities in using some different 3D CAD software solutions;
9. Parameterizing of 3D CAD models for families of parts/products (parts/assemblies with multiple configurations);
10. Advanced CAD part/assembly modeling;
11. Generative Design;
12. Particularities in using Solid Edge/Solid Works/Catia V5 for advanced parametric modeling;
13. Synchronous modeling;
14. Methods for improving design efficiency in CATIA V5R;
15. Computer-aided design of non-demountable and demountable assemblies;
16. Methods for dimensional optimization;

**References:**

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2. Muscă, Gavril, *Proiectarea asistată folosind SolidEdge [in Romanian]*, Junimea Publishing house, Iași, 2006;
3. Cioban, H., *Bazele proiectării asistate de calculator [in Romanian]*, Risoprint Publishing house, Cluj-Napoca, 2005. ISBN: 973-656-785-0;
4. Cioban, Horia, Dăscălescu, A., *Ghidul operatorului in Proiectarea Asistata de Calculator [in Romanian]* – 2<sup>nd</sup> Ed., North University Publishing house, 2008;
5. Ghionea I., *Proiectarea asistata in Catia V5 [in Romanian]*, BREN Publishing house, Bucharest, 2009, ISBN 978-973-648-843-6;
6. Ionuț Gabriel Ghionea, *Module de proiectare asistată în CATIA V5 cu aplicații în construcția de mașini [in Romanian]*, BREN Publishing house, Bucharest, 2004, ISBN 973-648-317-7;
7. Ionuț Gabriel Ghionea, *Proiectare asistata in CATIA v5 [in Romanian]*, BREN Publishing house, Bucharest, 2007, ISBN 978-973-648-654-8;
8. Cioata, V. G., *Proiectare asistată de calculator, notite curs/prezentari PPT [in Romanian]*, UPT Virtual Campus - <https://cv.upt.ro/course/view.php?id=3683>;
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11. David Madsen, s.a., *Engineering Drawing and Design*, Thomson Delmar Learning, 2007;
12. Tickoo, Sham, s.a., *CATIA V5R17 for Designers*, CADCIM Technologies, 2008;
13. Tickoo, Sham, s.a., *Autodesk Inventor 2008 for Designers*, CADCIM Technologies, 2008;
14. Anupam Saxena, s.a., *Computer Aided Engineering Design*, Springer, 2005;
15. Vinesh Raja, Kiran J. Fernandes, *Reverse Engineering. An Industrial Perspective*, Springer, London, 2008;
16. Ivan, N.V., s.a., *Sisteme CAD/CAPP/CAM, teorie si practica [in Romanian]*, Tehnica Publishing house , Bucharest, 2003;
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