



Disciplina	
<b>Programa</b>	[ 003] - (PPGEM) Programa De Pós-Graduação Em Engenharia Mecânica E De Materiais
<b>Código</b>	PMN26 <b>Nome</b> PLANEJAMENTO DE PROCESSO DE MANUFATURA ADITIVA
<b>Ementa em português</b>	Disciplina: Planejamento de Processo de Manufatura Aditiva Código: PMN26 Professor: Neri Volpato Nível: Doutorado Objetivo: Analisar os diversos aspectos do planejamento do processo nas principais tecnologias de Manufatura Aditiva (AM), enfatizando a influência das decisões de processo na qualidade, custo e tempo de obtenção do produto. Ementa: Planejamento de processo da Manufatura Aditiva (AM), Formatos geométricos dos modelos 3D para a AM; Etapas do planejamento de processo da AM (Orientação, Posicionamento, Escala, Fatiamento, Base e Estruturas de Suporte, Planejamento da trajetória e Pós-processamento); Peculiaridades do planejamento de processo de cada princípio de adição da AM; Sistemas computacionais de planejamento de processo de AM; Otimização do planejamento de processo de AM. Bibliografia recomendada: 1. Chua, C. K., Leong, K. F. and Lim, C.S., (2010), Rapid Prototyping: Principles and Applications (3rd edition), World Scientific Publishing Company, January, 540 p. ISBN-10: 9812778985 2. Gibson, I., Rosen, D.W. and Stucker, B., (2010), Additive Manufacturing Technologies: Rapid Prototyping to Direct Digital Manufacturing, Springer, New York, USA, December, 459 p. ISBN-10: 1441911197 3. Gibson, I. (Editor), (2002), Software Solutions for Rapid Prototyping, Professional Engineering Publishing Ltd, London, UK, 380p. ISBN: 1860583601 4. Hopkinson, N (Editor), Hague R. (Editor), Dickens P. (Editor), (2006), Rapid Manufacturing: An Industrial Revolution for the Digital Age, John Wiley & Sons Ltd, England, January, 285p. ISBN: 0470016132 5. Liou, F. W. (2007), Rapid Prototyping and Engineering Applications: A Toolbox for Prototype Development, CRC Press, 535p. ISBN-10: 0849334098 6. Volpato, N. (Editor), (2017), Manufatura Aditiva: Tecnologias e Aplicações da Impressão 3D, Edgard Blücher, 400p. Metodologia: Aulas expositivas com auxílio de slides e vídeos, realização de seminários, discussão sobre os temas relevantes e realização de um artigo de
<b>Ementa em inglês</b>	Course: Additive Manufacturing Process Planning Code: PMN26 Professor: Neri Volpato Level: Ph.D. Objective: Analyze the various aspects of process planning in the main Additive Manufacturing (AM) technologies, emphasizing the influence of the decisions on the part quality, cost and manufacturing time. Syllabus: Additive Manufacturing (AM) process planning, 3D geometric formats for AM; AM process planning steps (Orientation, Positioning, Scaling, Slicing, Base and Support Structures, Path Planning and Post-processing); Peculiarities of the process planning of each AM principle; Softwares for AM process planning; Optimization of AM process planning. Recommended bibliography: 1. Chua, C. K., Leong, K. F. and Lim, C.S., (2010), Rapid Prototyping: Principles and Applications (3rd edition), World Scientific Publishing Company, January, 540 p. ISBN-10: 9812778985 2. Gibson, I., Rosen, D.W. and Stucker, B., (2010), Additive Manufacturing Technologies: Rapid Prototyping to Direct Digital Manufacturing, Springer, New York, USA, December, 459 p. ISBN-10: 1441911197 3. Gibson, I. (Editor), (2002), Software Solutions for Rapid Prototyping, Professional Engineering Publishing Ltd, London, UK, 380p. ISBN: 1860583601 4. Hopkinson, N (Editor), Hague R. (Editor), Dickens P. (Editor), (2006), Rapid Manufacturing: An Industrial Revolution for the Digital Age, John Wiley & Sons Ltd, England, January, 285p. ISBN: 0470016132 5. Liou, F. W. (2007), Rapid Prototyping and Engineering Applications: A Toolbox for Prototype Development, CRC Press, 535p. ISBN-10: 0849334098 6. Volpato, N. (Editor), (2017), Manufatura Aditiva: Tecnologias e Aplicações da Impressão 3D, Edgard Blücher, 400p. Methodology: Lectures with the help of slides and videos, seminars, discussion on the relevant topics and preparation of a review paper on process planning. Assessment: Evaluation carried out through seminars, written test, preparation of a review paper and participation in classroom discussions.
<b>Bibliografia</b>	1. Chua, C. K., Leong, K. F. and Lim, C.S., (2010), Rapid Prototyping: Principles and Applications (3rd edition), World Scientific Publishing Company, January, 540 p. ISBN-10: 9812778985 2. Gibson, I., Rosen, D.W. and Stucker, B., (2010), Additive Manufacturing Technologies: Rapid Prototyping to Direct Digital Manufacturing, Springer, New York, USA,

	December, 459 p. ISBN-10: 1441911197 3. Gibson, I. (Editor), (2002), Software Solutions for Rapid Prototyping, Professional Engineering Publishing Ltd, London, UK, 380p. ISBN: 1860583601 4. Hopkinson, N (Editor), Hague R. (Editor), Dickens P. (Editor), (2006), Rapid Manufacturing: An Industrial Revolution for the Digital Age, John Wiley & Sons Ltd, England, January, 285p. ISBN: 0470016132 5. Liou, F. W. (2007), Rapid Prototyping and Engineering Applications: A Toolbox for Prototype Development, CRC Press, 535p. ISBN-10: 0849334098 6. Volpato, N. (Editor), (2017), Manufatura Aditiva: Tecnologias e Aplicações da Impressão 3D, Edgard Blücher, 400p.				
<b>Modo de avaliação</b>	Nota/Conceito E Frequência				
<b>Modelo de Disciplina</b>	Curricular				
<b>Nr. de créditos</b>	3	<b>Nr. de aulas semanais</b>	4	<b>Carga horária</b>	45
<b>Área(s) de concentração</b>	<b>Doutorado</b> <ul style="list-style-type: none"> <li>• Engenharia De Manufatura</li> <li>• Engenharia De Manufatura</li> </ul>				