Universida_{de}Vigo

Subject Guide 2023 / 2024

IDENTIFY	
IT process	s management and continuous improvement
Subject	IT process
,	management and
	continuous
	improvement
Code	P52M182V01102
Study	Master
programme	e Universitario en
	Dirección TIC para
	la defensa
Descriptors	s ECTS Credits Choose Year Quadmester
· · ·	4 Mandatory 1st 1st
Teaching	Spanish
language	
Departmen	nt second s
Coordinato	r Fernández Gavilanes, Milagros
Lecturers	Ares Tarrío, Miguel Ángel
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General	ICT processes' Management and Continuous Improvement offers a general vision of processes management in
description	organizations, according to the philosophy of Total Quality and the most widespread Excellence models.
-	The objective is to provide the student with the necessary knowledge in the field of process management,
	notably increasing their capacity in the design, analysis and diagnosis of processes, focused on their
	continuous improvement.
	An overview of the CMMI reference model is also offered, as a model that develops and integrates a set of good
	practices and that is currently a reference framework in the software industry and that generates value in the
	prioritization of actions in the improvement of processes of IT companies; also allowing to emphasize the
	alignment of processes in accordance with the objectives defined within the strategic plan of the organization.
Training a	and Learning Results
Code	
A6 CB6 -	Possess and understand knowledge that provides a basis or opportunity to be original in the development and / o
applic	ation of ideas, often in a research context.
A/ CB/-	That students know how to apply the acquired knowledge and their ability to solve problems in new or poorly
under	stood environments within broader (or multidisciplinary) contexts related to their area of study.
A8 CB8 -	That students are able to integrate knowledge and face the complexity of formulating judgments based on
Inform	nation that, being incomplete or limited, includes reflections on the social and ethical responsibilities linked to the
applic	ration of their knowledge and judgments. The balance lands have been been supported by the interval of the land of the second of the second of the second
A9 CB9 -	I nat students know now to communicate their conclusions and the knowledge and ultimate reasons that support
them	to a specialized and unspecialized public in a clear and unambiguous way.
ATO CRIO	- That students possess the learning skills that allow them to continue studying in a way that will be largely self-
directe	ed or autonomous.
BI CGI-	Possess advanced and highly specialized knowledge and demonstrate a detailed and well-founded understanding
of the	theoretical and practical aspects dealt with in the different areas of study.
B3 CG3 -	Direct, plan, coordinate, organize and/or supervise tasks, projects and/or numan groups. Work cooperatively in
multid	disciplinary teams acting, where appropriate, as an integrator of knowledge and lines of work.
D4 UG4 -	Defining a professional committee to quality, deadlines and the adequacy of solutions, not only in the exercise of
uie pr	oression put also in the social neid, including a commitment to economic, ethical and environmental
	Hability. Acquire knowledge and chille to develop offective leadership for the divited transformation of an encoder time
$\frac{CI}{C2}$ $\frac{CE1 - I}{CC2}$	Acquire knowledge and skills to develop effective leadership for the digital transformation of an organization.
LZ LEZ-	nave capacities in relation to the ICT Government and the Management, Operation and Maintenance Services of
	ación and communicación systems and reciniologies and mormation security.

- C3 CE3 Define, implement, direct and manage the organizational, operational and support processes in obtaining ICT resources and for the management and quality of the service; with a guarantee of safety for people and goods, the final quality of the products and their homologation.
- C5 CE5 Define and implement standard models, establishment of standards and reference methodologies and taxonomy of ICT services and information security.
- D5 CT5 Autonomous learning and work.

Expected results from this subject		
Expected results from this subject	Training and	
	Learning Results	
LO1. Understand what BPM process management is and learn to identify and document them.	B1	
	C1	
	C3	
LO2. Understand the organization of processes at different levels of the organization, process maps.	A9	
	B1	
	B4	
	C5	
LO3. Identification of critical processes and definition of process improvements.	A6	
	A7	
	B1	
	B4	
	C1	
	D5	
LO4. Understand Process Management as a basis for improvement models and tools such as ISO	A6	
9000-PECAL21XX, EFQM.	A8	
	A10	
	B1	
	B3	
	C1	
	C2	
	C3	
	C5	
	D5	
LO5. Know the maturity models, CMM.	B1	
	C1	
	C2	
	C3	
	C5	

Contents	
Торіс	
Topic 1. Process management, BPM.	 Management by functions From functional management to process management. Elements of a process. Organization by processes. BPM. What is and evolution.
Topic 2. Process design and reengineering.	 Process design Flow diagram. Processes modeler. Simulation and analysis of processes with computer tools.
Topic 3. Continuous improvement of processes, TQM and EFQM excellence models.	 Excellence models (TQM- Deming Model, NIST, EFQM) Continuous improvement models and practices (TPS-JIT, Lean Philosophy, Six Sigma) Application of continuous improvement in Defense.
Topic 4. Quality Management and Assurance Systems, ISO9000-PECAL.	 - ISO 9000:2015 standard. Basics and vocabulary - UNE-EN ISO 9001:201 standard. Quality management system. Requirements. - PECALP/AQAP Ministry of Defense.
Topic 5. Maturity models, CMM.	 CMM model. CMMI model. CMMI-DEV model. CMMI-SVC model. ITIL/ISO20000. ISO 15504. COBIT process capability model. Models of immaturity. CMMI® Maturity Profile Report, Dec 2017.

Planning

	Class hours	Hours outside the	Total hours
		classroom	
Autonomous problem solving	0	11	11
Previous studies	0	33	33
Lecturing	6	6	12
Problem solving	4	4	8
Practices through ICT	7	15	22
Seminars	2	0	2
Discussion Forum	0	3	3
Self-assessment	0	6	6
Presentation	3	0	3
*The information in the planning table is f	or guidance only and does no	ot take into account the hete	erogeneity of the students.

Methodologies Description Autonomous problem Activity in which students analyze and solve problems and/or exercises related to the subject solving autonomously. Previous studies Presentation by a lecturer of the contents of the subject of study, theoretical bases and/or guidelines of a work or exercise that the student has to develop. Exhibition by part of a lecturer of the contents of the matter object of study, theoretical bases Lecturing and/or guidelines of a work or exercise that the/the student has to develop. Problem solving Activity in which problems and/or exercises related to the subject are formulated. The student must develop the appropriate and correct solutions through the exercise of routines, application of formulas or algorithms, application of transformation procedures of the available information and interpretation of the results. Activities for the application of knowledge in a given context and the acquisition of basic and Practices through ICT procedural skills in relation to the subject, through the use of ICT. Seminars Activity focused on working on a specific topic, which allows to deepen or complement the contents of the subject. **Discussion Forum** Activity carried out in a virtual environment in which diverse and current topics related to the academic and/or professional field are debated.

Personalized assistance			
Methodologies	Description		
Lecturing	Given the blended nature of the course, we will phase: it will be carried out through the use of t questions to the lecturer in forums or by e-mail. with the lecturer, which will be carried out by vi although it is still possible to use telematic mec to-face tutoring mechanisms will also be used.	distinguish two cases: (1) Attention in the distance elematic means. Students who wish to do so may ask They will also be able to arrange individual tutorials deoconference. (2) Attention in the face-to-face phase: hanisms for student attention, during this phase, face-	
Problem solving	Given the blended nature of the course, we will phase: it will be carried out through the use of t questions to the lecturer in forums or by e-mail. with the lecturer, which will be carried out by vi although it is still possible to use telematic mec to-face tutoring mechanisms will also be used.	distinguish two cases: (1) Attention in the distance elematic means. Students who wish to do so may ask They will also be able to arrange individual tutorials deoconference. (2) Attention in the face-to-face phase: hanisms for student attention, during this phase, face-	
Practices through ICT	Given the blended nature of the course, we will phase: it will be carried out through the use of t questions to the lecturer in forums or by e-mail. with the lecturer, which will be carried out by vi although it is still possible to use telematic mec to-face tutoring mechanisms will also be used.	distinguish two cases: (1) Attention in the distance elematic means. Students who wish to do so may ask They will also be able to arrange individual tutorials deoconference. (2) Attention in the face-to-face phase: hanisms for student attention, during this phase, face-	
Seminars	Given the blended nature of the course, we will phase: it will be carried out through the use of t questions to the lecturer in forums or by e-mail. with the lecturer, which will be carried out by vi although it is still possible to use telematic mec to-face tutoring mechanisms will also be used.	distinguish two cases: (1) Attention in the distance elematic means. Students who wish to do so may ask They will also be able to arrange individual tutorials deoconference. (2) Attention in the face-to-face phase: hanisms for student attention, during this phase, face-	
Assessment			
[Description	Qualification Training and	

Practices through ICT	Activities of application of knowledge in a given context and acquisition of basic and procedural skills in relation to the subject, through the use of ICT. They allow the evaluation of the student's knowledge and skills. They will be evaluated by means of deliverables. There will be three deliverable activities (AO1, AO2 and AP3). AO1 and AO2 will be assessed during the distance phase and will cover topics 2 and 3, and will have a weighting of 9% and 6% of the mark, respectively. AP3 will be assessed during the face-to-face phase and will have a weighting of 25% of the mark.	40	A8	B1 C2 B3 C3 B4 C5
Discussion Forum	Activity carried out in a virtual environment in which diverse and current topics related to the academic and/or professional field are debated. It allows evaluating the skills, knowledge and, to a lesser extent, the attitudes of the student. There will be three discussion or debate activities (D1, D2 and D3) which will be assessed during the distance phase: D1 and D2 will cover topic 1, and will have a weighting of 1.5% and 4.5% of the mark, respectively; and D3 will cover topic 3 and will have a weighting of 9% of the mark.	15	A6 A10	B1 C1 D5) B4
Self-assessment	Mechanism in which, by means of a series of questions or activities, it is possible for the student to evaluate in an autonomous way his/her degree of acquisition of knowledge and skills on the subject, allowing a self-regulation of the personal learning process. There will be five self-assessment activities (A1, A2, A3, A4 and A5) which will be assessed during the distance phase: A1, A2 and A3 will cover topic 1, 2 and 3, respectively and will all have a weighting of 6.25%; A4 will cover topic 4 and will have a weighting of 1.25%; and A5 will cover topic 5 and will have a weighting of 5%.	25	A6 A7	B1 C1 D5 B4 C3
Presentation	Presentation by the students, individually or in groups, of a topic related to the contents of the subject or of the results of a work, exercise, project, etc. Knowledge, skills and attitudes can be evaluated through the presentation. The presentation (P) will be assessed during the face-to-face phase.	20	A9	B1 C1 B3 B4

Other comments on the Evaluation

If we call the average continuous assessment mark MED_CON, which is calculated as:

MED_CON = 0.09* AO1 + 0.06*AO2+ 0.25*AP3 + 0.015* D1 + 0.045*D2 + 0.09*D3 + 0.0625*A1+ 0.0625*A2 + 0.0625*A3 + 0.0125*A4 + 0.05*A5 + 0.2*P

It will be necessary to obtain at least 50% of the grade to pass the course.

In case the student fails to pass the course in the ordinary call, he/she will have the right to a second evaluation opportunity (extraordinary call) on the dates established for this purpose by the Master's Academic Committee. This evaluation will be carried out in distance mode, and will consist of a single test that will account for 100% of the grade, being necessary to obtain at least 50% to pass the course.

ACADEMIC INTEGRITY:

Students are expected to show adequate ethical behaviour, committing to act honestly. Based on article 42.1 of the *Regulation on the evaluation, qualification and quality of teaching and the student learning process of the University of Vigo,* any violation of academic integrity in the assessment process, as well as the cooperation in it will result in the assignment of a failing grade to the student (zero) for the entire course in the corresponding assessment opportunity, regardless of the percentage of importance that the test in question had in the overall continuous assessment and independently of other disciplinary actions that may be applied.

In the case of any difference between the Galician/Spanish/English guides related to the evaluation, the Spanish guide will always prevail.

Sources of information

Basic Bibliography

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1997

Trischler, W. E., **Mejora del valor añadido en los procesos**, Ediciones Gestión 2000 S.A., 1998 Ferrando Sánchez, Miguel; Granero Castro, Javier, **Calidad total: modelo EFQM de excelencia**, 2, Fundación Confemetal, 2005

Mary Beth Chrissis, Mike Konrad, Sandy Shrum, CMMI for Development: Guidelines for Process Integration and Product Improvement (SEI Series in Software Engineering), Addison-Wesley, 2011

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Claudio Pires, Gestión Por Procesos En La Práctica, 9798707642272, Independently Published, 2021

José Osvaldo De Sordi, Management by Business Process (A Managerial Perspective of People, Process, and Technology), 9783031116377, Springer International Publishing, 2022

Complementary Bibliography

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D. R. Kiran, Total Quality Management: Key Concepts and Case Studies, Butterworth-Heinemann, 2016

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Gerardus Blokdyk, CMMI A Complete Guide - 2020 Edition, 5STARCooks, 2019

Francisco Alfonso Lanza Rodriguez, Metodología para la implementación de procesos de calidad: en la fábrica de software basados en la integración de CMMI-DEV, PMBOK, y SCRUM, Editorial Académica Española, 2020

Alejandro Vázquez Chávez y Yohannia López Vargas, **Alineación de estándares para la gestión de proyectos de** servicios TI, 978-620-2-10578, KS OmniScriptum Publishing,

BPM 2021 International Workshops, Rome, Italy, September 6[10, 2021, Revised Selected Papers, **Business Process** Management Workshops, 9783030943424, Springer International Publishing, 2021

Daniel Plung, Connie Krull, **Process Improvement to Company Enrichment. An Integrated Strategy**, 9781637424261, Business Expert Press, 2022

Recommendations

Subjects that are recommended to be taken simultaneously

Government, management and ITC management/P52M182V01101

Other comments

Bizagi Modeler software will be used for the practical sessions:

https://www.bizagi.com/es/productos/bpm-suite/modeler.