Advanced Information Technology Governance

Module name	**Advanced Information Technology Governance**		
Module level	Graduate		
Code	ISYS9046046		
Courses (if applicable)	Advanced Information Technology Governance		
Semester	2		
Contact person	Dr. Ir. Ford Lumban Gaol, S.Si., M.Kom.		
Lecturer	Dr. Ir. Ford Lumban Gaol, S.Si., M.Kom. Prof. Dr. Ir. Suhono Harso Supangkat, M.Eng. Dr. Ir. Benny Ranti, M.Sc.		
Language	Bahasa		
Relation to curriculum	compulsory, 2nd semester.		
Type of teaching, contact hours	Graduate programs, TLS (Case Study, Demonstration, Lecture, Observation , Presentation, Role Play), 180 minutes		
Workload	1. Class Hour: 3 x 60 = 180 minutes (3 hours) per week. 2. Structured Activites, e.g. exercises and Assignments: average 90 minutes per week as class exercise or homework, included. 3. Private study: 3 x 90 = 270 minutes (4,5 hours) per week.		
Credit points	3 credit points		
Requirements according to the examination regulations	A student must have registered for the course.		
Recommended prerequisites	-		
Learning outcomes and their corresponding PLOs	**Course Learning Outcome (CLO) = LO**	**Description**	**Supported Learning Objective (LObj)**
	CLO-1	Develop a research recent developments in the field of information systems.	Lobj 1.1
	CLO-2	Perform an appropriate scientific knowledge in an exercise of Information System State of the Art..	Lobj 2.1
	CLO-3	Determine appropriate methods and objectives for addressing the aim of the contributions as well as strengths and weaknesses of Information System research paper.	Lobj 4.1
	CLO-4	Write an outline and final manuscript for a clearly communicate about the assigned Information System research topic.	Lobj 4.1
	CLO-5	Construct the front-matter, introduction, background, and outline of IS Research.	Lobj 4.1 Lobj 4.2

	CLO-6	Present and review the results of research to a group of their peers.	Lobj 3.2
Content	In this course the student gets insights about recent developments in the field of information systems especially on the IT governance and Information Processing. They will deepen their knowledge about IT governance in part of corporate governance that is the responsibility of the organization's top executive to ensure that organization’s information technology supports the goals and objectives of the organization, using variety of structural mechanisms, processes and mechanisms for communication /relationship. Fundamentally, IT Governance is concerned on how IT is delivering value and the management of IT risks, which was driven by strategic alignment between business and IT, resource management and performance management. The student should be able to critically review the assigned research papers, identify the main contributions and communicate the content in the form of a presentation as well as in a written report.</p>		
Study and examination requirements and forms of examination	The final grade in the module is composed of 40% project, 20% take-home assignments, and 40% Final Exam (Paper Publication) . Students must have a final grade of B to pass		
Media employed	LCD, LED Projector, PTZ Camera, whiteboards, and websites.		
Assessments and Evaluation	One final exam (that will be based on paper publication) short computer-based quizzes, take-home written assignments , Case Study exploration)		
Reading List	- Weill, P. and Ross, J.W., . (2004). . IT governance: How top performers manage IT decision rights for superior results.. (th). Harvard Business Press.. -. ISBN: . - Atkinson, Robert,. (2007). Digital Prosperity: Understanding the Economic Benefits of the Information Technology Revolution. (th). IT and Innovation Foundation. -. ISBN: . - Clarke, M., . (2010). IT governance design: An application of problem oriented engineering to enterprise architecture, TOGAF and SOA development. . (th). Department of Computing Faculty of Mathematics, Computing and Technology The Open University. -. ISBN: . - Cronk, Marguerite, and Fry, Graham. (2001). IT Evolution: how far have we come?. (th). Southern African Business Review (Vol. 5, No. 1), Jan 2001. -. ISBN: . - De Almeida, R.S., . (2013). Implementing IT Governance. (th). Theses Technico Lisboa - Portugal.. -. ISBN: . - Freedman, Rick. (2003). Helping Clients Value IT investments. (th). Consulting to Management(Vol. 14, No. 3), Sep 2003.. -. ISBN: . - Jong, F. (2009). The Right Governance Framework for Managing an Offshore IT Outsourcing Relationship-The Shell Case. (th). Master's thesis, University of Twente. -. ISBN: . - Karayilan, Y., . (2013). Operational Level IT Governance Model for Partnering and Value Co-Creation in an Ecosystem. (th). Helsinki Metropolia University of Applied Sciences. -. ISBN: . - Perko, J., . (2008). IT governance and enterprise architecture as prerequisites for assimilation of service-oriented architecture.. (th). Unpublished PhD Thesis, Tampere University of Technology.. -. ISBN: . - Ranti, B. (2008). Identification of IS/IT Business Values with Hermeneutics Approach: Cases in Indonesia. (th). Doctoral		

Dissertation (Excerpt), Faculty of Computer Science, University of Indonesia. -. ISBN: .
- Ranti, Benny. (2006). A Review of Information Technology Investment Evaluation Methodologies: the Need for Appropriate Evaluation Methods (Vol. 1, No. 2). (th). ICT Journal the Indonesian ICT Institute. -. ISBN: .
- Tabach, A.,. (2013). IT Governance Impact on Business Unit Performance.. (th). Doctoral dissertation, Concordia University.. -. ISBN: .
- USGAO. (2004). Information Technology Investment Management: A Framework forAssessing andImproving ProcessMaturity. (th). Executive Guide Ver. 1.1, US General Accounting Office. -. ISBN: .
- Van Grembergen, W., & De Haes, S., . (2009). Enterprise governance of information technology: achieving strategic alignment and value.. (th). Springer Science & Business Media. -. ISBN: .
- Van Grembergen, W., De Haes, S. and Guldentops, E., . (2004). Structures, processes and relational mechanisms for IT governance. Strategies for information technology governance, 2(4), pp.1-36.. (th). .

Advanced Softcomputing

Module name	**Advanced Softcomputing**		
Module level	Graduate		
Code	COMP9022046		
Courses (if applicable)	Advanced Softcomputing		
Semester	2		
Contact person	Dr. Ir. Yaya Heryadi, M.Sc.		
Lecturer	Dr. Ir. Yaya Heryadi, M.Sc. Dr. Ir. Lukas, MAI, CISA, IPM Wayan Suparta, S.Pd., M.Si., Ph.D Dr. Ilvico Sonata		
Language	Bahasa Indonesia (Indonesian Languages)		
Relation to curriculum	compulsory, 2nd semester.		
Type of teaching, contact hours	Graduate programs, TLS (Case Study, Demonstration, Lecture, Observation , Presentation, Role Play), 180 minutes		
Workload	1. Class Hour: 3 x 60 = 180 minutes (3 hours) per week. 2. Structured Activites, e.g. exercises and Assignments: average 90 minutes per week as class exercise or homework, included 3. Private study: 3 x 90 = 270 minutes (4,5 hours) per week.		
Credit points	3 credit points		
Requirements according to the examination regulations	A student must have registered for the course.		
Recommended prerequisites	-		
Learning outcomes and their corresponding PLOs	**Course Learning Outcome (CLO) = LO**	**Description**	**Supported Learning Objective (LObj)**
	CLO-1	Explain basic concepts, principles, algorithms, and performance metrics of softcomputing.	LOBJ 1.1 LOBJ 1.2
	CLO-2	Analyze computing requirements of a computing problem to be solved using softcomputing algorithm.	LOBJ 2.1 LOBJ 2.2
	CLO-3	Implement and analyze Softcomputing through experiment to address a pattern recognition problem, e.g. classification, regression, clustering, or forecasting.	LOBJ 4.1 LOBJ 4.2
	CLO-4	Publish experiment results using softcomputing methods to address a computing problem in a selected domain that has implication to enhancing the quality of human life	LOBJ 3.1 LOBJ 3.2

Content	This course aims to address the question of how we can make inference from data to solve problems when the problem is tolerant to imprecision and approximation and the input data contain uncertainty and partial truth. Motivated by application problems in diverse areas such as bioinformatics, brain/computer human interface, drug discovery, computer vision, and material science, we will examine how inference problems can be modeled from a mathematical and geometric perspective. Inference tasks such as classification, regression, clustering, ranking, feature selection, and novelty detection will be modeled mathematically and solved using appropriate algorithms. Statistical learning theory will be used to investigate the generalization capabilities of these approaches. Emphasis will be on state-of-the-art learning methodologies such as support vector machines, kernel methods, and ensemble techniques. This is a research seminar course. By reading machine learning and softcomputing papers, we will examine leading-edge research. A background text will be used to provide a unifying framework. Students interested in machine learning, mathematical modeling, and/or potential applications of machine learning are all welcome. Class can be customized to meet goals of the students. Students will each be responsible for presenting a paper for class discussion. Each student will define a research project, perform the research and present their results to the class in a mock conference setting at the end of the semester. The course will examine both mathematical and computational aspects of the learning algorithms.</p>
Study and examination requirements and forms of examination	The final grade in the module is composed of 40% project, 20% take-home assignments, and 40% Final Exam (Paper Publication) . Students must have a final grade of B to pass
Media employed	LCD, LED Projector, PTZ Camera, whiteboards, and websites.
Assessments and Evaluation	There are short computer-based quizzes, and take-home written assignments. A student is required to take final exam (200 minutes) if she/he failed to obtain Letter of Acceptance of a paper she/he submitted to an International Conference before the end of semester period.
Reading List	• C. M. Bishop.. (2006). Pattern Recognition and Machine Learning. (-th). Springer-Verlag New York Inc. . New York. ISBN: ISBN10 0387310738.. • A. Konar. (2000). Artificial intelligence and soft computing: behavioral and cognitive modeling of the human brain.. (-th). CRC Press LLC. . Florida. ISBN: -. • C. Cortes and V. Vapnik. (0). Support-Vector Networks Machine Learning. (th). -. -. ISBN: -. • C. M. Bishop.. (1996). Neural Networks for Pattern Recognition. (-th). -. -. ISBN: ISBN10 01985386. • G. Chen and T.T. Pham. . (2001). Introduction to Fuzzy Sets, Fuzzy Logic, and Fuzzy Control Systems. (-th). CRC Press LLC. . Florida. ISBN: -. • I. Goodfellow, Y. Bengio and A. Courville.. (2016). Deep Learning. (th). MIT Press, Cambridge. -. ISBN: . • J. Shawe-Taylor and N. Cristianini. (2004). Kernel Methods for Pattern Analysis. (-th). Cambridge University Press.Cambridge.. Cambridge. ISBN: -.

Knowledge and Information Retrieval

Module name	**Knowledge and Information Retrieval**		
Module level	Graduate		
Code	COMP9019046		
Courses (if applicable)	Knowledge and Information Retrieval		
Semester	1		
Contact person	Dr. Sani Muhamad Isa, S.Si., M.Kom.		
Lecturer	Dr. Sani Muhamad Isa, S.Si., M.Kom. Prof. Dr. Ir. Widodo Budiharto, S.Si., M.Kom., IPM, SMIEEE Iman Herwidiana Kartowisastro, Ph.D.		
Language	Bahasa		
Relation to curriculum	compulsory, 1st semester.		
Type of teaching, contact hours	Graduate programs, TLS (Case Study, Demonstration, Lecture, Observation , Presentation, Role Play), 180 minutes		
Workload	1. Class Hour: 3 x 60 = 180 minutes (3 hours) per week. 2. Structured Activites, e.g. exercises and Assignments: average 90 minutes per week as class exercise or homework, included. 3. Private study: 3 x 90 = 270 minutes (4,5 hours) per week.		
Credit points	3 credit points		
Requirements according to the examination regulations	A student must have registered for the course.		
Recommended prerequisites	-		
Learning outcomes and their corresponding PLOs	**Course Learning Outcome (CLO) = LO**	**Description**	**Supported Learning Objective (LObj)**
	CLO-1	Develop and Design IR Models & Tokenizing, Indexing, and Implementation of Vector-Space Retrieval as a field of research	LOBJ 1.1 LOBJ 2.1
	CLO-2	Define and Charaterizes with the concept of information and the relationship between information and knowledge	LOBJ 1.1 LOBJ 2.1
	CLO-3	The intellectual foundation for and theoretical perspective of the subject's core areas.	LOBJ 3.2
	CLO-4	Create the Framework of information science's platform.	LOBJ 4.1 LOBJ 4.2

Content	This course will cover advanced materials as well as recent advances in Knowledge & information retrieval (KIR), the study of the processing, indexing, querying, organization, and classification of textual documents, including hypertext documents available on the world-wide-web.</p>
Study and examination requirements and forms of examination	The final grade in the module is composed of 40% final exam, 40% project , 20% take-home assignments. Students must have a final grade of B to pass
Media employed	LCD, LED Projector, PTZ Camera, whiteboards, and websites.
Assessments and Evaluation	one final exam (200 minutes), short computer-based quizzes, take-home written assignments
Reading List	- 1. Christopher D. Manning, PrabhakarRaghavan and HinrichScutze. (2008). Introduction to Information Retrieval. (-th). Cambridge University Press. -. ISBN: 978-0521865715. - A.L. Barabasi. (2002). Linked: The New Science of Networks: How Everything is Connected to Everything Else and What it Means for Science, Business and Everyday Life. (-th). (book on the statistical properties of the Web and other graph structures in nature) . -. ISBN: -. - Adam Briggle et al. Eds. (2008). Current Issues in Computing and Philosophy. (-th). IOP Press. Amsterdam. ISBN: -. - David Vise and Mark Malseed. (2005). The Google Story. . (-th). -. -. ISBN: -. - John Battelle. (2005). The Search: How Google and Its Rivals Rewrote the Rules of Business and Transformed Our Culture. (-th). -. -. ISBN: -. - Joshua Quittner, Michelle Slatalla, . (1998). Speeding the Net: The Inside Story of Netscape and How It Challenged Microsoft. (-th). -. -. ISBN: -. - Randall Stross. (2008). Planet Google: One Company's Audacious Plan To Organize Everything We Know. (-th). -. -. ISBN: -. - Stephen Levy. (2011). In The Plex: How Google Thinks, Works, and Shapes Our Lives . (-th). -. -. ISBN: -. - Tim Berners-Lee with Mark Fischetti. (1999). Weaving the Web: The original design and ultimate destiny of the World Wide Web, by its inventor. (-th). -. -. ISBN: -.

Software Metric and Quality

Module name	**Software Metric and Quality**		
Module level	Graduate		
Code	COMP9018046		
Courses (if applicable)	Software Metric and Quality		
Semester	1		
Contact person	Spits Warnars Harco Leslie Hendric, S.Kom., M.T.I., Ph.D		
Lecturer	Spits Warnars Harco Leslie Hendric, S.Kom., M.T.I., Ph.D Dr. Ford Lumban Gaol, S.Si., M.Kom. Benfano Soewito, M.Sc., Ph.D.		
Language	Bahasa		
Relation to curriculum	compulsory, 1st semester.		
Type of teaching, contact hours	Graduate programs, TLS (Case Study, Demonstration, Lecture, Observation , Presentation, Role Play), 180 minutes		
Workload	1. Class Hour: 3 x 60 = 180 minutes (3 hours) per week. 2. Structured Activites, e.g. exercises and Assignments: average 90 minutes per week as class exercise or homework, included 3. Private study: 3 x 90 = 270 minutes (4,5 hours) per week.		
Credit points	3 credit points		
Requirements according to the examination regulations	A student must have registered for the course.		
Recommended prerequisites	-		
Learning outcomes and their corresponding PLOs	**Course Learning Outcome (CLO) = LO**	**Description**	**Supported Learning Objective (LObj)**
	CLO-1	Construct the need for software metrics	LOBJ 1.1
	CLO-2	Develop how the process of Empirical investigation	LOBJ 2.1
	CLO-3	Criticize the techniques Measuring external product attributes: quality	LOBJ 3.2
	CLO-4	Investigate the Measuring software reliability	LOBJ 4.1
	CLO-5	Design with Software test metrics	LOBJ 4.1 LOBJ 4.2
	CLO-6	Design with the Object-Oriented Metrics	LOBJ 4.1 LOBJ 4.2

Content	This course is a step by step description of the software metrics. It includes <del cite="mailto:SPits%20Warnars" datetime="2020-09-22T20:49"> </del>the development of measurement theory, models of software engineering measurement, software product metrics, software process metrics, and measuring management. The course is composed of the following modules: Measurement theory (overview of software metrics, basics of measurement theory, the goal-based framework for software measurement, empirical investigation in software engineering); Software product and process measurements (measuring internal product attributes: size and structure, measuring external product attributes: quality, measuring cost and effort, measuring software reliability, software test metrics, object-oriented metrics); Measurement Management.</p>
Study and examination requirements and forms of examination	The final grade in the module is composed of 40% final exam (paper publication) , 20% take-home assignments, 40% project-based. Students must have a final grade of B to pass
Media employed	LCD, LED Projector, PTZ Camera, whiteboards, and websites.
Assessments and Evaluation	One final exam (that will be based on paper publication) short computer-based quizzes, take-home written assignments , Project Based-assessments)
Reading List	- Norman Fenton (Author), James Bieman. . (2014). Software Metrics: A Rigorous and Practical Approach. (3rdth). (Chapman & Hall/CRC Innovations in Software Engineering and Software Development Series). -. ISBN: 13: 978-1439838228.. - Albrecht, A.J. (1979). Measuring application Development Productivity proc. (83-92th). IBM Application Development Joint SHARE/GUIDE Symposium, pp. 83-92. -. ISBN: . - Albrecht, A.J. and Gaffney, J.F. (1983). Software Function, Source Lines of Code and Development Effort Prediction: A Software Science Validation, IEEE Trans. (vol. th). IEEE Trans. -. ISBN: -. - Armitage, J.W., and Kellner, M.I. . (1994). A Conceptual Schema for Process Definitions and Models. (-th). IEEE Trans. -. ISBN: -. - Basili, V.R. and Weiss D. (1984). A Methodology for Collecting Valid Software Engineering Data. (vol. th). IEEE Transactions on Software Engineering. -. ISBN: -. - Basili, V.R., and Rombach, H.D. . (1988). The TAME Project: Towards Improvement-Oriented Software Environments. (vol. th). IEEE Transactions on Software Engineering. -. ISBN: -. - Briand, L., Morasca, S., Basili, V. (1996). Property-Based Software Engineering Measurement. (vol. th). IEEE Transactions on Software Engineering. -. ISBN: -. - Caws, P. . (1959). Definition and Measurement in Physics, Measurement: Definitions and Theories, C. West Churchman and Philburn Ratoosh,. (pp. 3th). John Wiley and Sons, Inc. -. ISBN: -. - Chidamber, S.R., Darcy, D.P., Kemerer, C.F. (1998). Managerial Use of Metrics for Object-Oriented Software: An Exploratory Analysis. (vol. th). IEEE Transactions on Software Engineering. -. ISBN: -. - Chidamber, S.R., Kemerer, C.F. . (1994). A Metrics Suite for Object Oriented Design. (vol. th). IEEE Transactions on Software Engineering. -. ISBN: -.

- Churchman, C.W., . (1959). Why Measure?, Measurement: Definitions and Theories, C. West Churchman and Philburn Ratoosh,. (ed., th). John Wiley and Sons, Inc. -. ISBN: -.
- Fenton, N.E. . (1991). Software Metrics: A Rigorous Approach. (-th). Chapman and Hall. -. ISBN: -.
- Fenton, N.E., and Whitty, R., . (1995). Software Quality Assurance and Measurement, A Worldwide Perspective, Norman Fenton, Robin Whitty, and Yoshinori Iizuka. (-th). International Thomson Computer Press. -. ISBN: -.
- Ghiselli, E.E.; Campbell, J.P.; and Zedeck, S. (1981). Measurement Theory for the Behavioral Sciences. (-th). W. H. Freeman and Company. -. ISBN: -.
- Humphrey, W.S. (1989). Managing the Software Process. (-th). Addison-Wesley. -. ISBN: -.
- Jones, C. (1996). Applied Software Measurement. (-th). McGraw-Hill. -. ISBN: -.
- Kan, S.H.. (1995). Metrics, and Models in Software Quality Engineering. (-th). Addison-Wesley. -. ISBN: -.
- Kirchner, P. (1959). Measurements and Management Decisions, Measurement: Definitions and Theories, C. West Churchman and Philburn Ratoosh. (ed., th). John Wiley and Sons, Inc. -. ISBN: -.
- McCabe, T.J. . (1976). A Complexity Measure. (vol.2th). IEEE Transactions on Software Engineering. -. ISBN: -.
- Rombach, H.D., and Ulery, B.T. (1989). Improving Software Maintenance Through Measurement. (vol. th). Proceedings of the IEEE. -. ISBN: -.
- Shepperd, M. and Ince, D. (1993). Derivation and Validation of Software Metrics. (-th). Clarendon Press. -. ISBN: -.
- Stevens, S.S. (1951). Mathematics, Measurement, and Psychophysics. (-th). John Wiley and Sons, Inc., . -. ISBN: -.
- Stevens, S.S. . (1946). On the Theory of Scales of Measurement. (vol. th). Science. -. ISBN: -.
- The ami Handbook. (1992). A Quantitative Approach to Software Management London. (-th). The ami Consortium. London. ISBN: -.
- Weinberg, G.M. . (1993). Quality Software Management. (-th). Dorset House Publishing. -. ISBN: -.
- Weyuker, E.J.. (1988). Evaluating Software Complexity Measures. (vol. th). IEEE Transactions on Software Engineering,. -. ISBN: -.
- Wiener, N. . (1920). A New Theory of Measurement: A Study in the Logic of Mathematics. (vol. th). Proceedings of London Mathematical Society. -. ISBN: -.
- Zuse, H. . (1991). Software Complexity: Measures and Methods. (-th). Walter de Gruyter. -. ISBN: -.

Research Methodology

Module name	**Research Methodology**		
Module level	Graduate		
Code	RSCH9012046		
Courses (if applicable)	Research Methodology		
Semester	1		
Contact person	Agung Trisetyarso, S.Si., M.Si., Ph.D		
Lecturer	Dr. Arief Ramadhan, S.Kom., M.Si Agung Trisetyarso, S.Si., M.Si., Ph.D Prof. Dr. Ir. Edi Abdurachman, MS., M.Sc. Prof. Dr. Muhammad Zarlis, M.Sc.		
Language	Bahasa		
Relation to curriculum	compulsory, 1st semester.		
Type of teaching, contact hours	Graduate programs, TLS (Case Study, Demonstration, Lecture, Observation , Presentation, project, Role Play), 150 minutes		
Workload	1. Class Hour: 3 x 60 = 180 minutes (3 hours) per week. 2. Structured Activites, e.g. exercises and Assignments: average 90 minutes per week as class exercise or homework, included. 3. Private study: 3 x 90 = 270 minutes (4,5 hours) per week.		
Credit points	3 credit points		
Requirements according to the examination regulations	A student must have registered for the course.		
Recommended prerequisites	-		
Learning outcomes and their corresponding PLOs	**Course Learning Outcome (CLO) = LO**	**Description**	**Supported Learning Objective (LObj)**
	CLO-1	Develop a research project proposal	Lobj 1.1 Lobj 2.1 Lobj 2.2 Lobj 4.1 Lobj 4.2
	CLO-2	Perform an appropriate literature review	Lobj 4.1
	CLO-3	Determine appropriate methods and objectives for addressing the aim of a project	Lobj 1.1 Lobj 2.1 Lobj 2.2
	CLO-4	Write an outline and final manuscript for a "conference-style" paper	Lobj 3.1
	CLO-5	Construct the front-matter, introduction, background, and outline of dissertation	Lobj 1.1 Lobj 2.1 Lobj 2.2

			Lobj 4.1
	CLO-6	Present and review the results of research to a group of their peers	Lobj 3.2
Content	*This course delivers fundamental knowledge and skills on initiating and conducting PhD research in Information system and Computer Science field. The Ability to conduct and to synthesize systematic literature review incoorporating with the investigating issue is delivered to enrich the student on constructing strong state of the art of the reseach. Exploring the research design and methodology is a part of this subject to support the students on outlining their proposed novel solution or approach. A sucessful student enrolling this subject is intended to construct valid research proposal for PhD level.*		
Study and examination requirements and forms of examination	The final grade in the module is composed of 40% final exam, 20% take-home assignments, 40% project. Students must have a final grade of B to pass		
Media employed	LCD, LED Projector, PTZ Camera, whiteboards, and websites.		
Assessments and Evaluation	One final exam (200 minutes), short computer-based quizzes, take-home written assignments ,Project Presentation.		
Reading List	- [OJ]. Oliver, J. . (1991). The Incomplete Guide to the Art of Discovery. (0-231-0762th). Columbia University Press. -. ISBN: -. - [JZ]. Justin Zobel. (2014). Writing for Computer Science. (3rdth). . -. ISBN: . - [LO]. Paul D. Leedy and Jeane Ellis Ormrod. . (2012). Practical Research: Planning and Design. (10th). . -. ISBN: .		

Philosophy of Science

Module name	**Philosophy of Science**		
Module level	Graduate		
Code	PHIL9001046		
Courses (if applicable)	Philosophy of Science		
Semester	1		
Contact person	Dr. Frederikus Fios, S.Fil., M.Th.		
Lecturer	Dr. Frederikus Fios, S.Fil., M.Th. Dr. Achjar, S.S., M.Hum. Prof. Dr. Ir. Dali Santun Naga, MMSI		
Language	Bahasa		
Relation to curriculum	compulsory, 1st semester.		
Type of teaching, contact hours	Graduate programs, TLS (Case Studies, Class discussion, Individual and Team Assignment , Lecture, project), 180 minutes		
Workload	1. Class Hour: 3 x 60 = 180 minutes (3 hours) per week. 2. Structured Activites, e.g. exercises and Assignments: average 90 minutes per week as class exercise or homework, included. 3. Private study: 3 x 90 = 270 minutes (4,5 hours) per week.		
Credit points	3 credit points		
Requirements according to the examination regulations	A student must have registered for the course.		
Recommended prerequisites	-		
Learning outcomes and their corresponding PLOs	**Course Learning Outcome (CLO) = LO**	**Description**	**Supported Learning Objective (LObj)**
	CLO-1	Explaining the ontological, epistemological, and axiological aspects of philosophy and their intersections to business activities	Lobj 1.1
	CLO-2	Writing a journal article on certain business issues with appropriate philosophical paradigms as the frame of reference	Lobj 3.2
	CLO-3	Analyzing certain phenomena in computer science based on philosophy of science perspectives.	Lobj 2.1
Content	The course focuses on the intersection of some areas of philosophy- especially those of philosophy of science, methodology, and ethics. Students will learn about the difference between philosophy as a process and philosophy as a product and identify the paradigms of philosophy underpinning their research related to computer science.</p>		

Study and examination requirements and forms of examination	The final grade in the module is composed of 40% final exam, 15% project presentations, 10% active in discussion, 25% paper written, 10% in-class participation. Students must have a final grade of B to pass
Media employed	LCD, LED Projector, PTZ Camera, whiteboards, and websites.
Assessments and Evaluation	one final exam (200 minutes), short computer-based quizzes, take-home written assignments , paper written, presentations.
Reading List	- Adam Briggle et al. Eds. (2008). Current Issues in Computing and Philosophy. (-th). IOP Press. Amsterdam. ISBN: -. - Jürgen Habermas. (1971). Knowledge and Human Interests. . (th). Beacon Press. Boston: . ISBN: . - Robert N. Barger.. (2008). Computer Ethics: A Case-Based Approach. (th). Cambridge University Press. . Cambridge: . ISBN: . - Stefano Gattei.. (2008). Thomas Kuhn's 'Linguistic Turn' and the Legacy of Logical Empiricism: Incommensurability, Rationality and the Search for Truth. . (th). Ashgate Publishing. Hampshire: . ISBN: 978-0-7546-6160. - Thomas Kuhn. (1996). The Structure of Scientific Revolutions.. (th). The University of Chicago Press. Chicago: . ISBN: 0-226-45808-3.. - Alex Rosenberg . (2003). Philosophy of Science: A Contemporary Introduction.. (th). Routledge. New York:. ISBN: . - Anthony O'Hear. Ed. . (1995). Karl Popper: Philosophy and Problems. (th). Cambridge University Press.. Cambridge: . ISBN: . - Christopher Hitchcock. Ed. . (2004). Contemporary Debates in Philosophy of Science. (th). Blackwell Publishing.. Malden: . ISBN: . - F. Neil Brady & Craig P. Dunn. (1995). Business Meta Ethics: An Analysis of Two Theories. (Vol. th). Business Ethics Quarterly. -. ISBN: -. - Imre Lakatos. (1989). The Methodology of Scientific Research Programmes. . (th). Cambridge University Press. Cambridge: . ISBN: . - Irving M. Copi, Carl Cohen, & Kenneth McMahon. (2014). Introduction to Logic. (14th). Pearson Education Ltd. . Essex: . ISBN: 978-1-292-02482. - Margareth Archer et al., Eds. . (1998). Critical Realism: Essential Readings. (th). Routledge. London: . ISBN: 0-415-19632-9.. - Michael L. Michael. (2006). Business Ethics: The Law of Rules. (-th). Harvard. -. ISBN: -. - Paul Feyerabend. (2010). Against Methods. (th). Verso. New York: . ISBN: 978-1-844-67442. - Robert W. Smid. (2009). Methodologies of Comparative Philosophy: the Pragmatist and Process Traditions. . (th). State University of New York Press. Albany: . ISBN: 978-1-4384-2829. - Samir Okasha. (2002). Philosophy of Science: A Very Short Introduction. (th). Oxford University Press. New York: . ISBN: 978-0-19-280283. - Thomas Nickles. (1974). Theory Generalization, Problem Reduction & the Limit of Science". . (Vol. th). PSA - Philosophy of Science Association. -. ISBN: -.

Advanced Knowledge System

Module name	**Advanced Knowledge System**		
Module level	Graduate		
Code	ISYS9045046		
Courses (if applicable)	Advanced Knowledge System		
Semester	1		
Contact person	Dr. Ir. Haryono Soeparno, M.Sc		
Lecturer	Dr. Ir. Haryono Soeparno, M.Sc. Ir. Togar Alam Napitupulu, M.S., M.Sc., Ph.D Prof. Dr. Sfenrianto, S.Kom., M.Kom. Spits Warnars Harco Leslie Hendric, S.Kom., M.T.I., Ph.D		
Language	Bahasa		
Relation to curriculum	compulsory, 1st semester.		
Type of teaching, contact hours	Graduate programs, TLS (Discussion, Lecture, Presentation), 180 minutes		
Workload	1. Class Hour: 3 x 60 = 180 minutes (3 hours) per week. 2. Structured Activites, e.g. exercises and Assignments: average 90 minutes per week as class exercise or homework, included. 3. Private study: 3 x 90 = 270 minutes (4,5 hours) per week.		
Credit points	3 credit points		
Requirements according to the examination regulations	A student must have registered for the course.		
Recommended prerequisites	-		
Learning outcomes and their corresponding PLOs	**Course Learning Outcome (CLO) = LO**	**Description**	**Supported Learning Objective (LObj)**
	CLO-1	Explain the theories, concepts, methods, and applications of KBS	Lobj 1.1
	CLO-2	Explain the theories, concepts, and methods of knowledge representations	Lobj 1.1
	CLO-3	Examine the concepts and methods of reasoning and apply KBS in developing a corporate strategy	Lobj 2.1
	CLO-4	Review recent trends of KBS technologies, applications and advancements	Lobj 4.1 Lobj 4.2
	CLO-5	Review paper(s) or results of research on advancement of KBS, and make summary of their works	Lobj 4.1 Lobj 4.2
	CLO-6	Present the results of review and able to apply their knowledge in designing innovative research on KBS	Lobj 3.2

Content	Knowledge-based systems (KBS) are advanced systems for representing complex problems. Their architecture and representation formalisms are the groundwork of today’s systems. KBS refers to an application program that reasons and uses a knowledge base to solve complex problems. In today’s scenario, KBS are used to all scientific as well as non-scientific area/domain of applications. In this course, theories, concepts and methods of KBS construction with particular emphasis on Rule-based Systems, and Case Based Systems. Topics include KBS fundamentals, knowledge representation, knowledge base construction, knowledge integration in databases, inference engines, reasoning from incomplete or uncertain information, intelligent decision support, intelligent tutoring system, natural language processing, semantic search, semantic web, and user tools and interfaces.</p>
Study and examination requirements and forms of examination	The final grade in the module is composed of, 40% final exam, 20% take-home assignments, 40% review papers. Students must have a final grade of B to pass
Media employed	LCD, LED Projector, PTZ Camera, whiteboards, and websites.
Assessments and Evaluation	one final exam (200 minutes), short computer-based quizzes, take-home written assignments
Reading List	- Russell, S., and Norvig, P. (2014). Artificial Intelligence, A Modern Approach. 3rd Ed. (3rd Edth). Pearson Education Limited. England . England . ISBN: -. - Giarratano, J., and Riley, G. . (2005). Expert Systems, Principles and Programming. (4th Eth). Thomson. Course Technology. USA.. -. ISBN: -. - Liu, H., Gegov, A., Cocea, M. . (2016). Rule Based Systems for Big Data A Machine Learning Approach. (-th). Springer. -. ISBN: -. - Liyang Yu.. (2007). Intro to the Semantic Web and Semantic Web Services. (-th). Chapman & Hall/CRC. -. ISBN: -. - Mourles,C., and Germanakos, P. . (2009). Intelligent User Interfaces: Adaptation & Personalization System and Technology. (-th). -. -. ISBN: -. - Nkanmbou R., Bordeau, J.C., Mizoguchi, R. . (2010). Advances in Intelligent Tutoring Systems. Springer. (-th). -. -. ISBN: -. - Pal, S.K & Shiu . (2004). Foundation of Soft Case-based Reasoning. (-th). Wiley. -. ISBN: -. - Tan, P.N., Steinbach, M., Karpatne, A., and Kumar, V. . (2017). Introduction to Data Mining. (2nd th). -. -. ISBN: -.

Recent Trends in Information Systems

Module name	**Recent Trends in Information Systems**		
Module level	Graduate		
Code	ISYS9019046		
Courses (if applicable)	Recent Trends in Information Systems		
Semester	1		
Contact person	Prof. Dr. Ir. Harjanto Prabowo, M.M.		
Lecturer	Prof. Dr. Ir. Harjanto Prabowo, M.M. Prof. Dr. Meyliana, S.Kom., M.M., CDMS, CBDMP Prof. Dr. Achmad Nizar Hidayanto, S.Kom., M.Kom.		
Language	Bahasa		
Relation to curriculum	compulsory, 1st semester.		
Type of teaching, contact hours	Graduate programs, TLS (Research), 180 minutes		
Workload	1. Class Hour: 3 x 60 = 180 minutes (3 hours) per week. 2. Structured Activites, e.g. exercises and Assignments: average 90 minutes per week as class exercise or homework, included. 3. Private study: 3 x 90 = 270 minutes (4,5 hours) per week.		
Credit points	3 credit points		
Requirements according to the examination regulations	A student must have registered for the course.		
Recommended prerequisites	-		
Learning outcomes and their corresponding PLOs	**Course Learning Outcome (CLO) = LO**	**Description**	**Supported Learning Objective (LObj)**
	CLO-1	Perform an appropriate literature review	Lobj 1.1 Lobj 2.1
	CLO-2	Write an outline and final manuscript for a "conference-style" paper	Lobj 4.2
	CLO-3	Present and review the results of research to a group of their peers	Lobj 3.2 Lobj 4.1 Lobj 4.2
Content	In this seminar the student gets insights about recent developments in the field of information systems. They will deepen their knowledge about specific topics in information systems and are required to communicate the outcome to other course participants. The student should be able to critically review the assigned research papers, identify the main contributions and communicate the content in the form of a presentation as well as in a written report</p>		
Study and examination requirements and forms of examination	The final grade in the module is composed of 60% take-home assignments, and 40% Paper Publication . Students must have a final grade of B to pass		

Media employed	LCD, LED Projector, PTZ Camera, whiteboards, and websites.
Assessments and Evaluation	One final exam (that will be based on paper publication) short computer-based quizzes, take-home written assignments , Case Study exploration)
Reading List	- Australian National University. (2007). Information Systems Foundations Theory, Representation and Reality. (-th). ANU E Press. -. ISBN: -. - 16. Webster, J.; Watson, R. T. . (2002). Analyzing the past to prepare for the future: Writing a literature revie. (-th). MIS Quarterly . -. ISBN: -. - 28. Webster, J.; Watson, R. T. . (2002). Analyzing the Past to Prepare for the Future: Writing a Literature Review.. (-th). MIS Quarterly . -. ISBN: -. - Banker, R. D., Hu, N., Pavlou, P. A., and Luftman. (2011). "CIO Reporting Structure, Strategic Positioning, and Firm Performance," . (-th). MIS Quarterly . -. ISBN: -. - Bansal, G.; Zahedi, F.; Gefen, D. (2008). The Moderating Influence of Privacy Concern on the Efficacy of Privacy Assurance Mechanisms for Building Trust: A Multiple-Context Investigation. (-th). ICIS . -. ISBN: -. - Bélanger, F., and Crossler, R. E. (2011). "Privacy in the Digital Age: A Review of Information Privacy Research in Information Systems,". (-th). MIS Quarterly . -. ISBN: -. - Bélanger, F., and Crossler, R. E. . (2011). "Privacy in the Digital Age: A Review of Information Privacy Research in Information Systems," . (-th). MIS Quarterly . -. ISBN: -. - Chan, Y. E., Huff, S. L., Barclay, D. W., and Copeland, D. G. (1997). "Business Strategic Orientation, Information Systems Strategic Orientation, and Strategic Alignment," . (-th). Information Systems Research. -. ISBN: -. - Chatterjee, D., Richardson, V. J., and Zmud, R. W. (2001). "Examining the Shareholder Wealth Effects of Announcements of Newly Created CIO Positions," . (-th). MIS Quarterly . -. ISBN: -. - Chen, J. et al.. (2009). Am I Afraid of my Peers? Understanding the Antecedents on Information Privacy Concerns in the Online Social Context. (-th). ICIS . -. ISBN: -. - Choudhury, V., and Karahanna, E. 2008. . (2008). "The Relative Advantage of Electronic Channels: A Multidimensional View,". (-th). MIS Quarterly . -. ISBN: -. - Dwivedi et al. . (2012). "Information System Theory, Explaining and Predicting Our Digital Society,. (Vol. th). ; Springer Science + Business Media. -. ISBN: -. - Dwyer, C.; Hiltz, S. R.; Passerini, K. . (2007). Trust and Privacy Concern within Social Networking Sites: A Comparison of Facebook and MySpace.. (-th). Proceedings of AMCIS . -. ISBN: -. - Harris, J., Ives, B., Junglas, I. . (2012). IT Consumerization: When Gadgets Turn Into Enterprise IT tools. (-th). MIS Quarterly Executive . -. ISBN: -. - Insch, G. S.; Moore, J. E.; Murphy, L. D. (1997). Content Analysis in Leadership Research: Examples, Procedures, and Suggestions for Future Use. (-th). Leadership Quarterly . -. ISBN: -. - Kim, H.-W.; Kankanhalli A. . (2009). "Investigating User Resistance to Information System Implementation: A Status Quo Bias Perspective". (-th). MIS Quarterly . -. ISBN: -.

- Kim, S.; Son, J-Y.. (2009). Out of dedication or constraint? A dual model of post-adoption phenomena and its empirical test in the context of online services. (-th). MIS Quarterly . -. ISBN: -.
- Lapointe L., Rivard, S. . (2005). "A Multilevel Model of Resistance to Information Technology Implementation". (-th). MIS Quarterly . -. ISBN: -.
- Okoli, C., and Schabram, K. (2010). "A Guide to Conducting a Systematic Literature Review of Information Systems Research," . (-th). Sprouts: Working Papers on Information Systems . -. ISBN: -.
- Okoli, C., and Schabram, K.. (2010). "A Guide to Conducting a Systematic Literature Review of Information Systems Research," . (-th). Sprouts: Working Papers on Information Systems . -. ISBN: -.
- Okoli, C.; Schabram, K. . (2010). A Guide to Conducting a Systematic Literature Review of Information Systems Research. (-th). -. -. ISBN: -.
- Okoli, C.; Schabram, K. . (2010). A Guide to Conducting a Systematic Literature Review of Information Systems Research.. (-th). -. -. ISBN: -.
- Pan, X., Ratchford, B., and Shankar, V. (2002). "Can price dispersion in online markets be explained by differences in e-tailer service quality?," . (-th). Journal of the Academy of Marketing Science . -. ISBN: -.
- Reich, B. H., and Benbasat, I. . (2000). Factors That Influence the Social Dimension of Alignment between Business and Information Technology Objectives,". (-th). MIS Quarterly . -. ISBN: -.
- Valentini, S., Neslin, S. A., and Montaguti, E. (2011). "Decision Process Evolution in Customer Channel Choice," . (-th). Journal of Marketing . -. ISBN: -.
- Venkatesan, R., Mehta, K., and Bapna, R. (2006). "Understanding the confluence of retailer characteristics, market characteristics and online pricing strategies,". (-th). Decision Support Systems . -. ISBN: -.
- Watson, R. T; Boudreau, M.; Chen, A. J. . (2010). Information Systems and Environmentally Sustainable Development: Energy Informatics and New Directions for the IS Community. (-th). MIS Quarterly . -. ISBN: -.
- Webster, J., and Watson, R. T. (2002). "Analyzing the Past to Prepare for the Future: Writing a Literature Review," . (-th). MIS Quarterly . -. ISBN: -.
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- Webster, J.; Watson, R. . (2002). Analyzing the past to prepare for the future: Writing a literature review. . (-th). MIS Quarterly . -. ISBN: -.
- Webster, J.; Watson, R. T. (2002). Analyzing the past to prepare for the future: Writing a literature review. (-th). MIS Quarterly . -. ISBN: -.
- Webster, J.; Watson, R. T. (2002). Analyzing the past to prepare for the future: Writing a literature review.. (-th). MIS Quarterly . -. ISBN: -.
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