Undergraduate Program

Bachelor of Computer Science in Information Systems

Modul Handbook

Prepared By

Curriculum Team
Department of Information Systems
Faculty of Intelligent Electrical and Informatic Technology
Institut Teknologi Sepuluh Nopember

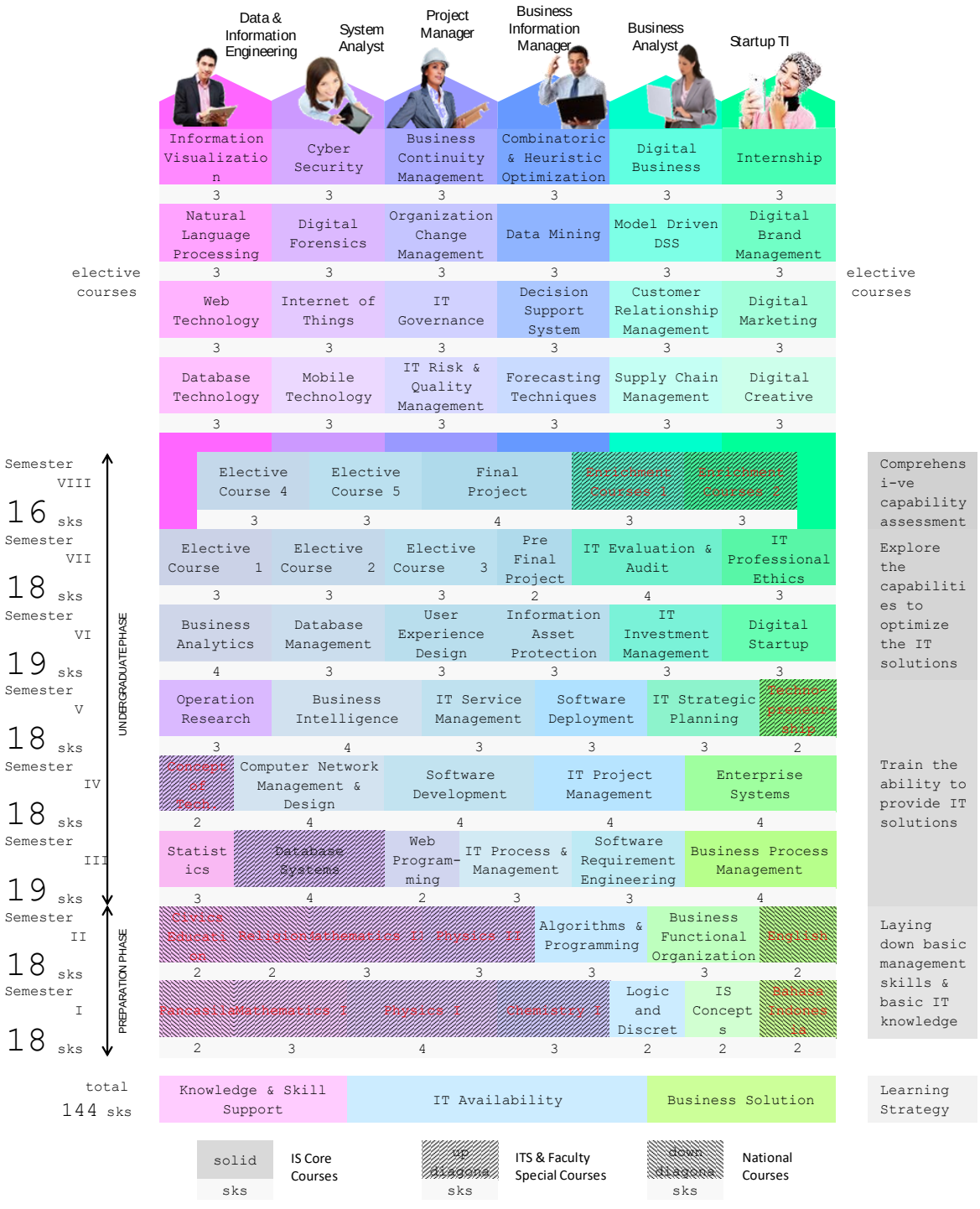
sisfor 2018

Curriculum 2018

Course Structure

Program: Bachelor of Computer Science in Information Systems

Year of commencement: 2018



Courses with **RED** font are delivered by TPB / MKDU / other Programs at ITS

Course Structure

Semester 1

No	Code	Course	Credit/Total
1	UG184912	Bahasa Indonesia indonesian	2
2	SF184101	Fisika 1 Physics 1	4
3	SK184101	Kimia 1 Chemistry 1	3
4	IS184102	Konsep SI Information System Concepts	2
5	IS184101	Logika & Struktur Diskrit Logic and Discrete Structures	2
6	KM184101	Matematika 1 Mathematics 1	3
7	UG184911	Pancasila Pancasila	2
		Total Credit	**18/18**

Semester 2

No.	Code	Course	Credit/Total
1	UG18490X	Agama X Religion studies	2
2	IS184203	Algoritma & Pemrograman Algorithms & Programming	3
3	UG184914	Bahasa Inggris English	2
4	SF184202	Fisika 2 Physics 2	3
5	UG184913	Kewarganegaraan Civics	2
6	KM184201	Matematika 2 Mathematics 2	3
7	IS184204	Organisasi dan Fungsional Bisnis Organization and Functional Business	3
		Total Credit	**18/36**

Semester 3

No	Code	Course	Credit/Total
1	IS184308	Manajemen & Proses TI IT Process & Management	3
2	IS184310	Manajemen Proses Bisnis Business Process Management	4
3	IS184307	Pemrograman Web Web Programming	3
4	IS184309	Rekayasa Kebutuhan Perangkat Lunak Software Requirement Engineering	3
5	IW184301	Sistem Basis Data Database System	4
6	IS184305	Statistika Statistics	3
		Total Credit	**20/56**

Semester 4

No.	Code	Course	Credit/Total
1	IS184411	Desain & Manajemen Jaringan Komputer Computer Network Management & Design	3
2	IS184621	Manajemen Basis Data Database Management	3
3	IS184413	Manajemen Proyek TI IT Project Management	4
4	IS184412	Rancang Bangun Perangkat Lunak Software Development	4
5	IS184414	Sistem Enterprise Enterprise Systems	4
		Total Credit	**18/74**

Semester 5

No.	Code	Course	Credit/Total
1	IS184518	Implementasi Perangkat Lunak Software Deployment	3
2	IS184516	Kecerdasan Bisnis Business Intelligence	4
3	IS184517	Manajemen Layanan Teknologi Informasi IT Service Management	3
4	IS184519	Perencanaan strategis TI IT Strategic Planning	3
5	IS184515	Riset Operasi Operation Research	3
6	UG184915	Teknopreneur Technopreneurship	2
		Total Credit	**18/92**

Semester 6

No.	Code	Course	Credit/Total
1	IS184620	Analitika Bisnis Business Analytics	4
2	IS184622	Desain Pengalaman Pengguna User Experience Design	3
2	IS184624	Manajemen Investasi TI IT Investment Management	3
3	IS184623	Proteksi Aset Informasi Information Asset Protection	3
4	IS184625	Rintisan Bisnis Digital Digital Startup	3
5	UG184916	Wawasan dan Aplikasi Teknologi Concept of Technology	3
		Total Credit	**19/111**

Semester 7

No.	Code	Course	Credit/Total
1	IS184726	Pra TA Pre-Final Project	2
2	IS184727	Evaluasi dan Audit TI IT Evaluation & Audit	4
3	IS184728	Etika Profesi TI IT Professional Ethics	2
4	IS1849XX	Mata Kuliah Pilihan 1 Elective Course 1	3
5	IS1849XX	Mata Kuliah Pilihan 2 Elective Course 2	3
6	IS1849XX	Mata Kuliah Pilihan 3 Elective Course 3	3
		Total Credit	**17/128**

Semester 8

No.	Code	Course	Credit/Total
1	XXXXXXXX	Mata Kuliah Pengayaan 1 Enrichment Course 1	3
2	XXXXXXXX	Mata Kuliah Pengayaan 2 Enrichment Course 2	3
3	IS1849XX	Mata Kuliah Pilihan 4 Elective Course 4	3
4	IS1849XX	Mata Kuliah Pilihan 5 Elective Course 5	3
5	IS184853	Tugas Akhir Final Project	4
		Total Credit	**16/144**

Elective Courses

No.	Code	Course	Credit
1	IS184935	Forensika Digital Digital Forensics	3
2	IS184934	Internet untuk Segala Internet of Things	3
3	IS184936	Keamanan Siber Cyber Security	3
4	IS184949	Kreatif Digital (Pengayaan) Digital Creative (Enrichment)	3
5	IS184953	Magang Industri Internship	6
6	IS184954	Magang Industri Internship	9
7	IS184955	Magang Industri Internship	12
8	IS184952	Magang Industri Internship	3
9	IS184946	Manajemen Hubungan Pelanggan Customer Relationship Management	3
10	IS184940	Manajemen Keberlangsungan Bisnis Business Continuity Management	3
11	IS184951	Manajemen Merek Digital Digital Brand Management	3
12	IS184939	Manajemen Perubahan Organisasi Organization Change Management	3
13	IS184945	Manajemen Rantai Pasok Supply Chain Management	3
14	IS184937	Manajemen Risiko & Kualitas TI IT Risk & Quality Management	3
15	IS184944	Optimasi Kombinatorik & Heuristik Combinatorial Optimization and Heuristic	3
16	IS184950	Pemasaran Digital Digital Marketing	3
17	IS184956	Pengembangan dan Operasi Sistem System Development and Operations	3
18	IS184943	Penggalian Data Data Mining	3
19	IS184931	Pengolahan Bahasa Alami Natural Language Processing	3

No.	Code	Course	Credit
20	IS184947	Sistem Keputusan Berbasis Model Model Driven DSS	3
21	IS184942	Sistem Pendukung Keputusan Decision Support System	3
22	IS184938	Tatakelola TI IT Governance	3
23	IS184941	Teknik Peramalan Forecasting Techniques	3
24	IS184929	Teknologi Basis Data Database Technology	3
25	IS184933	Teknologi Bergerak Mobile Technology	3
26	IS184930	Teknologi Web Web Technology	3
27	IS184932	Visualisasi Informasi Information Visualization	3
28	IS184948	Bisnis Digital Digital Business	3

Course Name

Logic & Discrete Structure

Code: IS184101	Credits: 2	Semester: 1

Module Name	Logic and Discrete Structures
Module level	Undergraduate
Code	IS184101
Semester	Fall (Gasal)
Contact Person	Eko Wahyu Tyas Darmaningrat, S.Kom., M.BA.
Lecturer	Ahmad Mukhlason, S.Kom., M.Sc., Ph.D. Eko Wahyu Tyas Darmaningrat, S.Kom., M.BA.
Language	Bahasa Indonesia, English
Relation to curriculum	Undergraduate degree program, mandatory, 1st semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive (100%)
Workload	1. Lectures: 2 x 50 = 100 minutes (1.66 hours) per week. 2. Private study: 2 x 60 = 120 minutes (2 hours) per week.
Credit points	2 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	Able to apply logic and math to solve business problems Able to apply logical, critical, systematic, & innovative thinking in context development or implementation of science & technology that aware of and apply pay attention & apply values of humanities according to the field of his/her expertise
Content	• **Logic and Proof:** Logic proportion, Predicates dan Quantifier, Rules of Inference, Method of Proof; • **Set Theory:** Concepts of Sets, Set Operation, Cardinality**;** • **Number Theory:** Divisibility and Modular Arithmetic, Primes and Greatest Common Divisors, Cryptography; • **Induction and Recursion**; • **Counting:** Pigeonhole principle, permutation and combination; • **Relation;** • **Graph Theory;** • **Algorithmic based Problem Solving**
Study and examination requirements and forms of examination	• Quiz • Mid-term examination • Final Examination
Media employed	LCD, whiteboard, classroom.its.ac.id
Reading list	**Kenneth H Rosen**, Discrete Mathematics and Its Applications Seventh Edition, 2012 **Backhouse, R.,** Algorithmic problem solving. John Wiley & Sons, 2011 **João Fernando Peixoto Ferreira,** Principles and Applications of Algorithmic Problem Solving, 2010.

Course name

Information System Concepts

Code: IS184102	Credit : 2	Semester: 1

Module Name	Information System Concepts
Module level	Undergraduate
Code	IS184102
Semester	Fall (Gasal)
Contact Person	Feby Artwodini, S.Kom., M.T.
Lecturer	Feby Artwodini, S.Kom., M.T. Bekti Cahyo Hidayanto, S.Si., M.Kom.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 1st semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive Methods (70%) Team Based Project (30%)
Workload	1. Lectures: 2 x 50 = 100 minutes (1.66 hours) per week. 2. Private study: 2 x 60 = 120 minutes (2 hours) per week.
Credit points	2 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Have intrapersonal and interpersonal skills • Produce IT based scientific and entrepreneurship products to solve actual problems • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics
Content	The information system is a very important component for the success of businesses and organizations. Information systems can help all types of businesses in terms of increasing the efficiency and effectiveness of business processes, making managerial decisions, so as to strengthen the competitive position of the business in a rapidly changing market. Internet-based information systems quickly became the ingredients needed for business success in today's dynamic global environment. Businesses today need Information Systems. So what needs to be known regarding the use of information systems in business, this Information Systems Concept Course will answer basic questions about the role of Information Systems in business organizations. In this Information System Concept course, students can understand the various characteristics of Information Systems (IS) and their development trends, and can take advantage of IS to help provide solutions to business problems.
Study and examination requirements and forms of examination	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	**Ralph Stair, George Reynolds,** Principles of Information Systems, 9e, Course Technology Cengage Learning, 2010 **Patricia Wallace, John's Hopkins University,** Introduction to Information Systems, 3e, Pearson, 2018

	James O' Brien, Introduction to Information Systems, 16e, McGraw-Hill, 2013 **R. Kelly Rainer & Brad Prince**, Introduction to Information Systems: Supporting and Transforming Business, Willey 2015

Course name

Algorithms & Programming

Code: IS184203	Credit : 3	Semester: 2

Module Name	Algorithms & Programming
Module level	Undergraduate
Code	IS184203
Semester	Spring (Genap)
Contact Person	Ahmad Mukhlason, S.Kom., M.Sc., Ph.D.
Lecturer	Ahmad Mukhlason, S.Kom., M.Sc., Ph.D. Dr. Ir. Aris Tjahyanto, M.Kom. Renny Pradina Kusumawardani, S.T., M.T.
Language	Bahasa Indonesia, English
Relation to curriculum	Undergraduate degree program, mandatory, 2nd semester
Type of teaching, contact hours	Lectures, up to 40 students Practical, up to 40 student Cognitive Method (69%) Team Based Project (10%) Case Method (21%)
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Independent study: 3 x 60 = 180 minutes (3 hours) per week. 3. Practical Work 100 minutes per week
Credit points	3 credit points
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	Able to apply logic and math to solve business problems
Content	Java Basic, Data Type, String, Decision, Looping, Debugging and Exception Handling, Data Structure, Object Oriented Programming
Study and examination requirements and forms of examination	Computing Assignment Courseworks Mid-term examination Final examination
Media employed	LCD, whiteboard, classroom.its.ac.id
Reading list	**H.M. Deitel, P.J. Deitel , S.E. Santry**, Java How To Program, Late Objects, 11th Edition, Deitel & Associates, Inc, 2017. **Oracle Academy**, Java Fundamentals (curriculum 2016). **Oracle Academy**, Java Foundations (curriculum 2016).

Course Name

Organizational & Functional Business

Code: IS184204	CREDITS: 3	Semester: 2

Module Name	Business Functional Organization
Module level	Undergraduate
Code	IS184204
Semester	Spring (Genap)
Contact Person	Erma Suryani, ST., MT., Ph.D.
Lecturer	Erma Suryani, ST., MT., Ph.D. Edwin Riksakomara, S.Kom., M.T. Ir.Khakim Ghozali M.MT.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 2nd semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive Methods 25% Team based 25% Case Methods 50%
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Enhance the quality of business and IT integration which provides competitiveness in organizations • Have intrapersonal and interpersonal skills • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics
Content	This course gives an overview of the management of functions within the organization. There are four functions in the organization that will be discussed in this lecture: planning, organizing, leading, controlling. At the end of this course, students are expected to have a perspective of overall organizational management. This picture is very important, especially when students face non-technological problems when implementing information technology in organizations.
Study and examination requirements and forms of examination	• In-class exercises • Assignment 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 • Mid-term examination • Final Project • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom), zoom
Reading list	**Robbins, Stephen P., and Mary Coulter,** 2018, Management, 14th ed. Pearson **Robbins, Bergman, Stagg, Coutler**, 2012, Management, 6th Edition, Pearson **Angelo Kinicki, Brian K Williams**, 2016, Management: A Practial Approach, McGraw Hill

Course Name
Statistics

Code: IS184305	Credit : 3	Semester: 3

Module Name	Statistics
Module level	Undergraduate
Code	IS184305
Semester	Fall (Gasal)
Contact Person	Wiwik Anggraeni, S.Si., M.Kom.
Lecturer	Wiwik Anggraeni, S.Si., M.Kom. Renny Pradina Kusumawardani, S.T., M.T.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 3rd semester
Type of teaching, contact hours	Lectures, up to 40 students, **Cognitive Method (100%)**
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase • Enhance the quality of business & IT integration that gives the organization competitiveness • Implement logic and math, statistics, physics, chemistry to solve business problems • Have intrapersonal and interpersonal skills
Content	The Statistics course studies various statistical data processing techniques. This course is the basic foundation of various monitoring and evaluation approaches to Information Technology implementation. Students will learn statistical concepts in data analysis, differences between population and sample, primary data collection, distribution and sampling concepts and confidence intervals. Students are also asked to do hypothesis testing, correlation test, regression test then interpret the results of the analysis according to the context of the problem at hand. Students are also required to be able to present the results of their analysis orally and in writing
Study and examination requirements and forms of examination	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	**Bowerman, Bruce L, O'Connel, Richard T**. Business Statistics in Practice, Mc Graw Hill, 2007 **Lind, Marchal, Wathen**. Statistical Techniques in Business and Economics, Mc Graw Hill, 2009 **Levine, Stephan, Krehbel, Berenson**. Statistics for Managers: Using Microsoft Excel. Prentice-Hall, 2009

Course Name

Database Systems

Code: IW184301	Credit: 4	Semester: 3

Module Name	Database Systems
Module level	Undergraduate
Code	IS184306
Semester	Fall (Gasal)
Contact Person	Rully Agus Hendrawan, S.Kom., M.Eng.
Lecturer	Rully Agus Hendrawan, S.Kom., M.Eng. Irmasari Hafidz, S.Kom., M.Sc. Andre Parvian Aristio, S.Kom., M.Sc.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 3rd semester
Type of teaching, contact hours	Lectures, up to 40 students,
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement compromised IT solution alternative for the organization • Enhance the quality of business & IT integration in the organization • Implement logic and math, statistics, physics, chemistry to solve business problems • Have excellent intrapersonal and interpersonal skills in business environment • Have knowledge in organization management, IT process and artifact in organization • Have knowledge in business & IT organization • Apply expertise to the nation and country
Content	Database Systems are becoming increasingly important nowadays. As the basis of student information system database knowledge, this course is very important considering the knowledge of database concepts, architecture and relational data models needs to be known. In addition, the concept of relational algebra also requires special attention to support other courses that require the use of databases as support. This course will provide a Conceptual Database for a Relational Data Model using the ER Model and Enhanced-ER (EER) Model, build a Logical Database design experience for students to manipulate data using SQL, build designs and physics for a Relational Data Model, and identify functional dependencies. and perform Data Normalization. This understanding and experience in this course will produce a work in the form of a physical database design and provide students with the challenges of building an ideal database for use in storing and managing organizational operational data.
Study and examination requirements and forms of examination	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).

Course Name
Database Systems

Code: IW184301	Credit: 4	Semester: 3

Reading list	**Ramez Elmasri dan Shamkant B. Navathe**, Fundamentals of Database Systems, Sixth Edition, Addison-Wesley, 2011. **Thomas M. Connolly dan Carolyn E. Begg**, Database Systems: A Practical Approach to Design, Implementation, and Management, Sixth Edition, Addison-Wesley, 2015.

Course Name

Web Programming

Code: IS184307	Credit: 3	Semester: 3

Module Name	Web Programming
Module level	Undergraduate
Code	IS184307
Semester	Fall (gasal)
Contact Person	Ir. Achmad Holil Noor Ali, M.Kom.
Lecturer	Faizal Johan Atletiko, S.Kom, M.T. Dr.Eng. Febriliyan Samopa, S.Kom., M.Kom.
Language	Bahasa Indonesia/ English
Relation to curriculum	Undergraduate degree program, mandatory, 3rd semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive Method (50%) Team Based Project (25%) Case Method (25%)
Workload	1. Lectures: 2 x 50 = 100 minutes (1 hours 40 minutes) per week. 2. Private study: 2 x 60 = 120 minutes (2 hours) per week. 3. Assignment: 2 x 60 = 120 minutes (2 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Special skills: integrate data & transform it into information which is used to improve organizational competitiveness. • Having knowledge about optimization & automation of IT services with the best technology for the organization
Content	This course is one of a series of courses that give students an understanding of the development of information system applications. In this course, students will understand web-based service architecture and create web-based applications. In addition, students gain insight into web-based application frameworks
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	**Harvey M. Deitel, Paul J. Deitel**, Java How To Program, Prentice Hall, 7th Edition, 2007. **H.M. Deitel, P.J. Deitel , S.E. Santry**, Advanced Java 2 Platform - How To Program , 2nd Edition, Deitel & Associates, Inc, 2001. **Kurt Mehlhorn, Peter Sanders**, Algorithms and Data Structures: The Basic Toolbox, Springer, 2008. **Sandra Andersen**, Data Structures in Java: A Laboratory Course, Jones and Bartlett Publishers, 2001. **T.H.Cormen, C.E. Leiserson, R.L Rivest**, Introduction to Algorithms, 2nd Edition, MIT Press, Cambridge, Mass., 2001.

	Tim Boudreau, Jesse Glick, Simeon Greene, Jack Woehr, NetBeans: The Definitive Guide, O'Reilly, 2002.

Course Name

IT Process & Management

Code: IS184308	CREDITS: 3	Semester: 3

Module Name	IT Process & Management
Module level	Undergraduate
Code	IS184308
Semester	Fall (gasal)
Contact Person	Anisah Herdiyanti, S.Kom., M.Sc.
Lecturer	Ir. Achmad Holil Noor Ali, M.Kom. Anisah Herdiyanti, S.Kom., M.Sc.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 3rd semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive Method (67%) Team Based Project (33%)
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Have intrapersonal and interpersonal skills • Have knowledge in organization management, IT process and artifact for business continuity • Apply expertise to the nation and country with integrity and ethics
Content	Information technology (IT) has now become an integral and inseparable element in business. To meet business objectives, IT is managed through processes that follow a cycle of planning, development, delivery, and improvement. Through standardized management, IT can be managed based on a framework that becomes the reference for the organization, including: COSO, ITIM, PMBOK, PMMM, OPM3, CMMI, PRINCE2, ISO 9000-2000, Six Sigma, ISO/IEC 20000, ITSM, CobIT, ISO 17799, ISO/IEC 27001-2005, OPBOK, Kano Model. This course focuses on discussing standardized frameworks in IT process management. For this reason, this course uses visual (poster), verbal (presentation), physical (experience with case studies), solitary (individual - test) and social (group - discussion) learning methods. The topics discussed in this course include: 1) the concept of management and governance; 2) IT processes; and 3) ITG reference model. This course provides a basic understanding of topics in IT process management such as IT project management, IT service management, IT asset security, enterprise systems, software development.
Study and examination requirements and forms of examination	• In-class exercises • Quiz • Mid-term examination • Final examination

Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	**Muhammad Ehsan Khan**, Program Governance (Best Practices and Advances in Program Management) 1st Edition, Taylor & Francis Group, 2015 **Alan Calder**, IT Governance: Guidelines for Directors, IT Governance Publishing 2005 **Gad J Selig**, Implementing IT Governance (Best Practice) First edition Edition, Van Haren Publishing, 2010

Course Name

Software Requirement Engineering

Code: IS184309	CREDITS: 3	Semester: 3

Module Name	Software Requirement Engineering
Module level	Undergraduate
Code	IS184309
Semester	Fall (Odd)
Contact Person	Feby Artwodini, S.Kom., M.T.
Lecturer	Feby Artwodini, S.Kom., M.T. Ika Nurkasanah, S.Kom, M.Sc.
Language	Bahasa Indonesia (Regular Class) and English (International Undergradte Program)
Relation to curriculum	Undergraduate degree program, mandatory, 3rd semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive Method (50%) Team Based Project (50%)
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	- Students understand the importance of requirements important and definition Requirement Engineering - Students are able to understand process concepts and process models for software requirements engineering - Students are able to explain the important role in the software requirements engineering process - Students are able to explain why process improvement is important and can suggest a process improvement model for software requirements engineering - Students understand the concept of requirement elicitation and will be able to use several techniques and methods in generating software requirements - Students understand techniques in analyzing software requirements - Students understand the need for requirement validation and can validate needs by using several methods, including RTM - Students understand the important components in the Software Requirement Specifications (SRS) document - Students understand the phenomenon of software requirement changes that are very dynamic and how to manage these changes without reducing the quality of the software.
Content	This course provides an overview of procedures, processes, analysis techniques, system specifications, methodology developments, representation methods, as well as requirements engineering tools and techniques, and therefore, will be useful to develop document software requirements specifications.

	This course provides students with experience to explore, analyze, specify, manage, validate, and document software requirements, as well as being able to trace back predefined needs until they are valid. For this reason, the learning method used is expository, contextual, problem-based learning, and practice on real case examples to be solved in groups. The benefits obtained from this course are not only to provides knowledge and understanding of the basic concepts of software requirements engineering, but also the ability to explore the requirement and define those needs in the form of software requirements specifications, both functional and non-functional requirements. With understanding, knowledge and ability to do software requirements engineering, students are able to provide information technology solutions that suit the company's business needs in the real world. The Software Requirements Engineering course also gives students the ability to use tools to manage their needs and document them in the form of a Software Requirements Specification (SRS).
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1 – 11 (include Final Project's assignment) • Mid-term examination • Final Project Presentation
Media employed	LCD, whiteboard, websites (ITS classroom), meeting platform (zoom & teams)
Reading list	***Main:*** 1. **Roger S Presman**, Software Engineering, 6th edition, McGrawHill, 2005 2. **Ian Sommerville**, Software engineering, Seventh Edition, Pearson Education Asia, 2007 3. **Murali Chemuturi,** Requirements Engineering and Management for Software Development Projects, Springer, 2012 4. **Ellen Gottesdiener,** The Software Requirements: Memory Jogger : a Pocket Guide to Help Software and Business Teams Develop and Manage Requirements, GOAL/QPC, 2005 5. **Ian Sommerville,** Requirements Engineering: A Good Practice Guide, John Wiley & Sons, 2009 6. **Leffingwell,** Managing Software Requirements: A Use Case Approach, 2/E, Pearson Education, 2003 7. **The Requirements Engineering Body of Knowledge (REBoK) and Its Practical Guide,** IEEE Computer Society Washington, DC, USA, 2012 8. **IEEE Software Engineering Standards Committee,** IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications, October 20, 1998 ***Supporting:*** 1. **Watts S.Humphrey**, A Discipline for Software Engineering, Pearson Education, 2007 2. **Sholiq**, Analisis dan Perancangan Berorientasi Obyek, Mutiara Indah Bandung, 2010

3. **Daniel Siahaan**, Analisa Kebutuhan dalam Rekayasa Perangkat Lunak, Penerbit Andi Yogyakarta, 2012
4. SWEBOK 4
5. Online Lecture, MOOC, Video Lecture on YouTube

Course Name

Business Process Management

Code: IS184310	CREDITS: 4	Semester: 3

Module Name	Business Process Management
Module level	Undergraduate
Code	IS184310
Semester	Fall (gasal)
Contact Person	Arif Wibisono, S.Kom., M.Sc.
Lecturer	Arif Wibisono, S.Kom., M.Sc. Mahendrawathi ER, ST., M.Sc., Ph.D. Andre Parvian Aristio, S.Kom., M.Sc. Dr. Mudjahidin, S.T., M.T.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 3rd semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive Method (31%) Team Based Project (57%) Case Method (12%)
Workload	1. Lectures: 4 x 50 = 200 minutes (3.33 hours) per week. 2. Private study: 4 x 60 = 240 minutes (4 hours) per week. 3. Assignment: 4 x 60 = 240 minutes (4 hours) per week.
Credit points	4 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	**Special Skills:** • Exploring the needs & designing system integration in organizations • Implementing the organization's business process cycle **General skills:** • Make decisions to solve problems in their area of expertise **Knowledge:** • Having knowledge of optimization & automation of IT services in the organization • Have knowledge of current & future business environment (including management, organization, functions, business processes) **Attitude** • Trying to achieve perfect results;
Content	Business processes are the foundation of all information system applications. No information system moves without a process. Therefore, the management of business processes is vital to ensure effective and efficient execution of information systems. This lecture will challenge participants to answer the needs of business process management in organizations. For this reason, this course material focuses on six phases in the business process cycle: process identification, process discovery, process analysis, process redesign, process implementation, and process monitoring and evaluation. With an understanding of the business process life cycle and the ability to manage business processes in organizations in this lecture, participants will be able to demonstrate the execution of a process model on top of the Business Process Management (BPM) software.

Course Name

Business Process Management

Code: IS184310	CREDITS: 4	Semester: 3

Study and examination requirements and forms of examination	• In-class exercises • Quiz 1, 2, 3, 4 and 5 • Assignment 1, 2, 3, 4 • Mid-term examination • Final project (Divided into assignment 5, 6, 7, 8, 9, 10, 11)
Media employed	LCD, whiteboard, websites (classroom.its.ac.id), YouTube (Mahendrawathi Erawan).
Reading list	**Marlon Dumas, Marcello La Rosa, Jan Mendling, Hajo A. Reijers**. Fundamentals of Business Process Management. Springer 2018. **Mathias Weske**. Business Process Management: Concepts, Languages, Architectures 2nd Edition. Spinger 2012 **Paul Harmon**. Business Process Change. Morgan Kaufmann 2007

Course Name

Computer Network Management & Design

Code: IS184411	Credits: 3	Semester: 4

Module Name	Computer Network Management & Design
Module level	Undergraduate
Code	IS184411
Semester	Spring (Genap)
Contact Person	Nisfu Asrul Sani, S.Kom., M.Sc.
Lecturer	Bekti Cahyo Hidayanto, S.Si., M.Kom. Nisfu Asrul Sani, S.Kom., M.Sc.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 4th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive Method (50%) Team Based Project (25%) Case Method (25%)
Workload	1. Lectures: 4 x 50 = 200 minutes (3 hours 40 minutes) per week. 2. Private study: 4 x 60 = 240 minutes (4 hours) per week. 3. Assignment: 4 x 60 = 240 minutes (4 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase • Enhance the quality of business & IT integration that gives the organization competitiveness • Have intrapersonal and interpersonal skills • Have knowledge in business and IT
Content	Computer Network Management & Design provides an understanding of the concept of knowledge, analysis of network technology utilization requirements, and network management and monitoring with an emphasis on flexibility and convergence. As the main support for SI business operations through provision & network arrangement.
Study and examination requirements and forms of examination	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	**Alexander Clemm,** Network Management Fundamentals, Cisco Press, 2006. **Steven Karris,** Networks: Design and Management, Orchard Publications, 2002. **Shaun Hummel,** Network Planning and Design Guide, Shaun Lloyd Hummel, 2006. **James D. McCabe**, Network Analysis, Architecture, and Design, Morgan Kaufmann, 2007. **Andrew S. Tanenbaum**, Computer Networking, Prentice Hall, 2007.

	William Stallings, Data And Computer Communications 7th Edition, Prentice Hall, 2007.

Course Name

Software Development

Code: IS184412	Credit: 4	Semester: 4

Module Name	Software Development
Module level	Undergraduate
Code	IS184412
Semester	Spring (Genap)
Contact Person	Sholiq, S.T., M.Kom.
Lecturer	Faizal Johan Atletiko, S.Kom, M.T. Radityo Prasetianto Wibowo, S.Kom, M.Kom.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 4th semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive Method (20%) Team Based Project(50%) Case Method (30%)
Workload	1. Lectures: 4 x 50 = 200 minutes (3 hours 40 minutes) per week. 2. Private study: 4 x 60 = 240 minutes (4 hours) per week. 3. Assignment: 4 x 60 = 240 minutes (4 hours) per week.
Credit points	4 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase. • Enhance the quality of business & IT integration that gives the organization competitiveness. • Have intrapersonal and interpersonal skills. • Produce IT based scientific and entrepreneurship products to solve actual problems. • Have knowledge in organization management, IT process and artifact for business continuity. • Have knowledge in business and IT. • Apply expertise to the nation and country with integrity and ethics. • Able and willing to internalize entrepreneurial spirit that suitable with the expertise in the current era.
Content	Designing and developing software is very important nowadays, along with the large number of IT implementations in organizations. Therefore, designing and developing software using the right method to improve the reliability of the resulting software is very important to be obtained by students of the Information Systems Study Program. oftware Design (RBPL) course **provides students with experience in designing and developing small-medium scale software** using an object-oriented paradigm which is carried out in a teamwork (developer) collaboration. **The learning method used** is inquiry, contextual, and final project courses to be completed in groups**. This course matter focuses on** OOAD concepts and various UML diagrams, analysis and design of object-oriented software using UML, Iconix process, UML modeling tools, software construction concepts, construction design, translation of UML diagrams to code programming languages

	structures, reverse engineering, design patern, software testing, and the final project. The final project of this course is intended to produce a work in the form of designing, manufacturing, and testing small-to-medium scale software along with development documentation, user guides, and unit test level testing documents.
Study and examination requirements and forms of examination	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	1. MIT OpenCourseWare. http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-005-elements-of-software-construction-fall-2011/ 2. McConnell, Steve. 2004. Code Complete, 2th Edition. Washington: Microsoft Press. 3. Stashkova, Alyona. and Pickersgill, Catherine. 2016. “NetBeans Developing Applications with NetBeans IDE, Release 8.1”. -:Oracle 4. Ian Sommerville. Software Engineering, 10th edition. http://iansommerville.com/software-engineering-book

Course Name

IT Project Management

Code: IS184413	Credit: 4	Semester: 4

Module Name	IT Project Management
Module level	Undergraduate
Code	IS184413
Semester	Spring (Genap)
Contact Person	Ir. Achmad Holil Noor Ali, M.Kom.
Lecturer	Feby Artwodini, S.Kom., M.T. Anisah Herdiyanti, S.Kom., M.Sc. Eko Wahyu Tyas Darmaningrat, S.Kom., M.BA.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 4th semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive 55% Team Based 45%
Workload	1. Lectures: 4 x 50 = 200 minutes (3 hours 40 minutes) per week. 2. Private study: 4 x 60 = 240 minutes (4 hours) per week. 3. Assignment: 4 x 60 = 240 minutes (4 hours) per week.
Credit points	4 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Manage various resources to realize IT solutions that are safe, high quality, fast & affordable • Have intrapersonal and interpersonal skills • Produce IT based scientific and entrepreneurship products to solve actual problems • Have knowledge in organization management, IT process and artifact for business continuity • Able to practice all skills in the nation & state with integrity & ethics
Content	IT project management is becoming increasingly important today. Planning, implementing & controlling an IT project is a relatively complex & difficult activity to do because it is required to consider various aspects, such as quality, time, cost, resources & progress towards achieving goals. This course will provide **students with experience to initialize, plan, execute, control, and close an IT project**. For this reason, the **learning method** used is inquiry, contextual & IT projects to be completed in groups. This **course matter focuses** on best practice project frameworks & project management processes. An understanding of project concepts, project knowledge areas & the use of project management tools and experience in working on IT project assignments in this course will produce a work in the form of an IT project document & provide provisions for students to excel in the competition in the world of work.
Study and examination requirements and forms of examination	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).

Course Name

IT Project Management

Code: IS184413	Credit: 4	Semester: 4

Reading list	**Schwalbe, Kathy**. Information Technology Project Management, Thomson 2004 **Arthur M. Langer**, Guide to Software Development: Designing and Managing the Life Cycle, Springer-Verlog London Limited 2016 **Marc Maxmeister**, Trello for Project Management, Amazonkindle 2014

Course Name

Enterprise Systems

Code: IS184414	Credits: 4	Semester: 4

Module Name	IT Project Management
Module level	Undergraduate
Code	IS184413
Semester	Spring (Genap)
Contact Person	Ir. Achmad Holil Noor Ali, M.Kom.
Lecturer	Feby Artwodini, S.Kom., M.T. Anisah Herdiyanti, S.Kom., M.Sc. Eko Wahyu Tyas Darmaningrat, S.Kom., M.BA.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 4th semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive 55% Team Based 45%
Workload	1. Lectures: 4 x 50 = 200 minutes (3 hours 40 minutes) per week. 2. Private study: 4 x 60 = 240 minutes (4 hours) per week. 3. Assignment: 4 x 60 = 240 minutes (4 hours) per week.
Credit points	4 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase; • Enhance the quality of business and IT integration in organizations; • Have intrapersonal and interpersonal skills • Produce works, scientific works, & IT entrepreneurship that are able to solve actual problems • Have knowledge in organization management, IT process and artifact for business continuity • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics • Able and willing to internalize entrepreneurial spirit that suitable with the expertise in the current era
Content	Today organizations need information systems and technology that can provide accurate, fast data and information to support their business processes. ERP, which is a software package with a single database to automate various cross-functional business processes, has become a standard for organizations in various industrial fields. On the other hand, ERP is known as a complex system and its implementation involves large resources. Therefore an understanding of the business processes of the software is needed and the ability to configure and implement it so that it can provide value to the organization. This course will provide students with knowledge of best practices in corporate resource planning business processes and experience in configuring, operating and executing ERP software implementation projects. For this reason, the learning methods used are lectures, discussions, project-based assignments to implement ERP, and practice

	operating ERP software. This course material will focus on the main business processes in ERP software, ERP implementation cycles and methodologies and the practice of operating ERP software.
Study and examination requirements and forms of examination	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	**Schwalbe, Kathy**. Information Technology Project Management, Thomson 2004 **Arthur M. Langer**, Guide to Software Development: Designing and Managing the Life Cycle, Springer-Verlog London Limited 2016 **Marc Maxmeister**, Trello for Project Management, Amazonkindle 2014

Course Name

Operation Research

Code: IS184515	Credit: 3	Semester: 5

Module Name	Operation Research
Module level	Undergraduate
Code	IS184515
Semester	Fall (gasal)
Contact Person	Wiwik Anggraeni, S.Si., M.Kom.
Lecturer	Edwin Riksakomara, S.Kom., M.T. Wiwik Anggraeni, S.Si., M.Kom.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 5th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 16% Case Method 84%
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 =180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	**Special Skills:** Analyze data & information to find critical findings that support intelligent business decision making & solutions. **General Skills:** • Apply logic & math for solving business problem. • Being able to apply logical thinking, critical, systematic, and innovative in the context of the development or implementation of science and technology that takes into account and apply the value of the humanities are relevant to their expertise. • Able to make decisions appropriately in the context of problem solving in their area of expertise, based on the results of information & data analysis. **Attitude:** Able and willing to make concrete contributions in solving optimization problems faced by society
Content	Operations Research is one of the fields of science that is more widely used in determining optimal results from problems that occur in an organization or business. The optimal results can later be used to assist management in providing information used in the decision-making process. This course will give students the ability to model and solve organizational and business problems (optimization) using a management science (mathematical) approach. For this reason, the learning method used will be accompanied by examples of problems or real case studies in organizations, companies, or businesses (problem based learning). This course material focuses on the concept of modeling, model completion, analysis of the optimal results that have been obtained, and the integer program used to make optimal solutions more suitable for implementation.

Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	**David R.Anderson, Dennis J.Sweeney**, An Introduction to Management Science : Quantitative Approach to Decision Making, South-Western College Pub, 2015 **Powell, Kenneth R.Baker**, Management Science: The Art of Modelling with Spreadsheets, 4th edition, Wiley, 2013 **Bernard W. Taylor**, Introduction to Magement Science, Prentice Hall, 12th edition, 2015. **Wayne L., Winston, S. Christian Albright**, Practical Management Science, 5th edition, Cencage Learning, 2015 **A. Hamdy Taha**, Operations Research: an Introduction 10th Ed, Pearson, 2016 **Wayne L. Winston**, Operations Research: Applications and Algorithms (with CD-ROM and InfoTrac) 4th Ed, Duxbury Press, 2003

Course Name

Business Intelligence

Code: IS184516	Credits: 4	Semester: 5

Module Name	Business Intelligence
Module level	Undergraduate
Code	IS184516
Semester	Fall (gasal)
Contact Person	Faizal Mahananto, S.Kom., M.Eng., Ph.D
Lecturer	Faizal Mahananto, S.Kom., M.Eng., Ph.D
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 5th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 40% Team Based 30% Case Method 30%
Workload	1. Lectures: 4 x 50 = 200 minutes (3 hours 40 minutes) per week. 2. Private study: 4 x 60 = 240 minutes (4 hours) per week. 3. Assignment: 4 x 60 = 240 minutes (4 hours) per week.
Credit points	4 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase • Enhance the quality of business & IT integration that gives the organization competitiveness • Implement logic and math, statistics, physics, chemistry to solve business problems • Have intrapersonal and interpersonal skills • Have knowledge in organization management, IT process and artifact for business continuity
Content	Business intelligence course is indispensable at this time to answer the growing business challenges. The faster the business runs, it requires quick answers to all the business questions. This course aims to provide insight into how to analyze business and manage business performance using available data and facts. Students will gain an understanding of OLAP, business analytics and business performance management, and Dashboard and data visualization for business intelligence. This understanding and experience in this course will produce dashboard and data visualization for business intelligence to solve real problems.
Study and examination requirements and forms of examination	• Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	**Moss, Larissa Terpeluk, and Shaku Atre**. Business intelligence roadmap: the complete project lifecycle for decision-support applications. Addison-Wesley Professional, 2003.

	Brian Larson, Delivering Business Intelligence with Microsoft Sql Server 2008, McGraw Hill, 2009 **Teradata** White Papers **Tableau** White Papers

Course Name

IT Service Management

Code: IS184517	Credits: 3	Semester: 5

Module Name	IT Service Management
Module level	Undergraduate
Code	IS184517
Semester	Fall (gasal)
Contact Person	Tony Dwi Susanto, S.T., M.T., Ph.D.
Lecturer	Tony Dwi Susanto, S.T., M.T., Ph.D. Anisah Herdiyanti, S.Kom., M.Sc.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 5th semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive 50% Team Based 50%
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase. • Produce IT based scientific and entrepreneurship products to solve actual problems • Have knowledge in organization management, IT process and artifact for business continuity • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics
Content	This course aims to enable students to plan, design, manage, and improve information technology services .
Study and examination requirements and forms of examination	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	**Tony Dwi Susanto**, Sukses Mengelola Layanan Teknologi Informasi & Kiat Lulus Ujian Sertifikasi ITIL Foundation, AISINDO, 2017 Manajemen Layanan Teknologi Informasi, Tony Dwi Susanto, 2014 **Jan Van Bon et.al.,** Foundation of IT Service Management based on ITIL V3, Van Haren Publishing,2007 **Robb A**, Effective IT Service Management, Springer Verlag, 2007 **Peter Farenden**, ITIL For Dummies, 2012 **Youtube Channel**: ITIL series, Charles Sturt University (CSU), Marco Cattaneo

Course Name:
Software Deployment

Code: IS184518	Credits: 3	Semester: 5

Module Name	Software Deployment
Module level	Undergraduate
Code	IS184518
Semester	Fall (gasal)
Contact Person	Hanim Maria Astuti, S.Kom., M.Sc.
Lecturer	Radityo Prasetianto Wibowo, S.Kom, M.Kom.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 5th semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive 25% Team Based 75%
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Able to design & implement IT solutions based on appropriate methods & can improve business performance & organizational competitiveness gradually & sustainably • Have intrapersonal and interpersonal skills • Able to practice all skills in the nation & state with integrity & ethics
Content	In the current era of Information Technology, almost all organizations use various types of software to speed up business process execution, increase communication speed between units, and other purposes. The software used by organizations can come from in-house self-development, outsourced development, purchasing a license or purchasing a software package as a product. Regardless of where software comes from, its implementation is not simple. Not a few cases have occurred where an organization has made a large investment for the development or purchase of software, but failed to be implemented in the organization. This course aims to equip students with the knowledge and experience to plan, execute, evaluate and control software implementation in organizations. For this reason, this course uses visual (pictures, concepts), verbal (presentation), physical (experience with case studies), solitary (individual) and social (group, discussion) learning methods. This course matter focuses on knowledge of the factors of success, failure, including considerations in software implementation, processes / methods in software implementation, and cases of software implementation in software packages such as ERP. In the end, students are expected to produce documents as a provision for implementing the software in the form of templates.
Study and examination requirements and forms of examination	• Mid-term examination • Final examination

Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	**Christine B. Tayntor**, *Successful Packaged Software Implementation*, Auerback Publications **Careline Howard,** *Strategic Adoption of Technological Innovation*, Information Science Reference **Karlheinz Kautz & Jan Pries- Heje,** Diffusion and Adoption of Information Technology, Springer Science **Schwalbe, Kathy**. *Information Technology Project Management*, Thomson 2004

Course Name

IT Strategic Planning

Code: IS184519	Credits: 3	Semester: 5

Module Name	IT Strategic Planning
Module level	Undergraduate
Code	IS184519
Semester	Fall (gasal)
Contact Person	Ir. Achmad Holil Noor Ali, M.Kom.
Lecturer	Ir. Achmad Holil Noor Ali, M.Kom. Dr.Eng. Febriliyan Samopa, S.Kom., M.Kom.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 5th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 67% Team Based 33%
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	**Special Skills:** • Able to align IT & Business that contribute to the organization in a maximum & measurable manner • Able to plan investment & acquisition of viable IT solutions so as to provide organizational competitiveness • Able to manage various resources to realize IT solutions that are safe, high quality, fast & affordable • Able to explore needs & design system integrations that increase organizational competitiveness • Able to integrate data & transform it into information that is used to improve organizational competitiveness **General Skills:** • Have innovative IT ideas as a solution to actual problems **Knowledge:** • Have knowledge of current & future business environment (including management, organization, functions, business processes) • Have knowledge of current & future IT environment (including processes, organizations, applications, infrastructure, IT people, data) **Attitude:** • Upholding human values in carrying out duties based on religion, morals, and ethics; • Obeying the law and discipline in public and state life; • Demonstrate an attitude of responsibility for work in their field of expertise independently

Course Name

IT Strategic Planning

Code: IS184519	Credits: 3	Semester: 5

Content	Every certain period (usually 5 years) an organization requires an information system strategic planning. With the existence of IS strategic planning, the organization can maximize the support of information systems and information technology to achieve the organization's business goals. IS strategic planning is good if the planning can support the organization to achieve the organization's business goals. This course aims to equip students with the knowledge and experience to align IT & Business that contributes to the organization in a maximum & measurable manner, plan investment & acquisition of viable IT solutions so as to provide organizational competitiveness, manage various resources to realize safe, quality, fast & affordable IT solutions, explore needs & design system integrations that improve organizational competitiveness and integrate data & transform it into information used to improve organizational competitiveness. This course material focuses on how to develop an IS / IT strategy that is in line with the organization's business strategy.
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	**Ward, John**. Strategic Planning for Information System, John-Wiley **Tozer, Edwin**. Strategic IS/IT Planning, Butterworth-heinemann

Course Name

Business Analytics

Code: IS184620	Credit: 4	Semester: 6

Module Name	Business Analytics
Module level	Undergraduate
Code	IS184620
Semester	Spring (Genap)
Contact Person	Edwin Riksakomara, S.Kom., M.T.
Lecturer	Edwin Riksakomara, S.Kom., M.T. Renny Pradina Kusumawardani, S.T., M.T.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 6th semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive 85% Case Method 15%
Workload	1. Lectures: 4 x 50 = 200 minutes (3 hours 40 minutes) per week. 2. Private study: 4 x 60 = 240 minutes (4 hours) per week. 3. Assignment: 4 x 60 = 240 minutes (4 hours) per week.
Credit points	4 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Use basic of logic & mathematics, statistics, physics, chemistry to solve various business problems • Demonstrate intrapersonal & interpersonal skills in business environment • Recognize basic concept of managing IT organizations, processes & artifacts for business continuity • Recognize basic knowledge of business & IT • Demonstrate all of the expertise for the nation & country
Content	In the Business Analytics course, students are introduced to the concept of intelligence in a computational context. With mastery of this concept of intelligence, students will be able to create a computational body that can be programmed to act in accordance with the conditions they face with the aim of achieving maximum utility (acting rationally). These concepts form the basis of the data analysis and decision-making process and in subsequent courses.
Study and examination requirements and forms of examination	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	**Stuart Russell,Peter Norvig**, Artificial Intelligence: A Modern Approach (3rd Edition), 2009 **Peter Flach**, Machine Learning: The Art and Science of Algorithms that Make Sense of Data, 2012 **Tom M. Mitchell**. 1986. Machine learning: An artificial intelligence approach, 1986. **Andrew Ng**, Coursera Machine Learning. 2015

	Gareth James, Daniela Witten, Trevor Hastie, and Robert Tibshirani. 2013. An introduction to statistical learnin, 2015

Course Name

Database Management

Code: IS184621	Credit : 3	Semester: 6

Module Name	Database Management
Module level	Undergraduate
Code	IS184621
Semester	Spring (Genap)
Contact Person	Radityo Prasetianto Wibowo, S.Kom, M.Kom.
Lecturer	Radityo Prasetianto Wibowo, S.Kom, M.Kom. Rully Agus Hendrawan, S.Kom., M.Eng.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 6th semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive 15% Team Based 85%
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 =180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase • Enhance the quality of business & IT integration that gives the organization competitiveness • Have knowledge in organization management, IT process and artifact for business continuity
Content	Database Management includes the concept and implementation of relational database management for organizational needs, especially in terms of how the database system is managed in order to provide competitiveness for the organization.
Study and examination requirements and forms of examination	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	**Thomas M. Connolly dan Carolyn E. Begg**, Database Systems: A Practical Approach to Design, Implementation, and Management , Sixth Edition, Addison-Wesley, 2015. **Adam Jorgensen, Bradley Ball, Steven Wort, Ross LoForte dan Brian Knight**, Professional Microsoft SQL Server 2014 Administration Training Kit (Exam 70-462) Administering Microsoft SQL Server 2012 Databases (MCSA) (Microsoft Press Training Kit)

Course Name

User Experience Design

Code: IS184622	Credit: 3	Semester: 6

Module Name	User Experience Design
Module level	Undergraduate
Code	IS184622
Semester	Spring (Genap)
Contact Person	Faizal Johan Atletiko, S.Kom, M.T.
Lecturer	Faizal Johan Atletiko, S.Kom, M.T.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 6th semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive 50% Team based 50%
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 =180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase • Enhance the quality of business & IT integration that gives the organization competitiveness • Implement logic and math, statistics, physics, chemistry to solve business problems • Have intrapersonal and interpersonal skills • Produce IT based scientific and entrepreneurship products to solve actual problems • Have knowledge in organization management, IT process and artifact for business continuity • Have knowledge in business and IT • Able and willing to internalize entrepreneurial spirit that suitable with the expertise in the current era
Content	This course provides knowledge to students about best practices about one of the stages in Software Development, namely the Design Stage. This lecture focuses on the aspects of User Experience Design or better known as User Experience Design (UX Design).
Study and examination requirements and forms of examination	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	**U Pablo Perea & Pau Giner** , UX Design for Mobile , PACKT, 2017 **Luke Hay** , Researching UX: Analytics , SitePoint Pty. Ltd., 2017 David Platt , The Joy of UX - User Experience and Interactive Design for Developers, PACKT , 2016 **Scott Faranello** , Practical UX Design , PACKT , 2016

Course Name

User Experience Design

Code: IS184622	Credit: 3	Semester: 6

Nicholas Leonard , The best user experience(UX) for mobile applications - Professional UI design , Addison-Wesley , 2016

Course Name

Information Asset Protection

Code: IS184623	Credits: 3	Semester: 6

Module Name	Information Asset Protection
Module level	Undergraduate
Code	IS184623
Semester	Spring (Genap)
Contact Person	Bekti Cahyo Hidayanto, S.Si., M.Kom.
Lecturer	Bekti Cahyo Hidayanto, S.Si., M.Kom. Dr. Bambang Setiawan, S.T., M.T. Izzat Aulia Akbar, S.Kom., M.Eng., Ph.D.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 6th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 50% Team Based 25% Case Method 25%
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 =180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase • Have intrapersonal and interpersonal skills • Have knowledge in organization management, IT process and artifact for business continuity
Content	In this course students will learn the need to manage information assets and some management techniques. This includes physical and logical environmental security to ensure disaster recovery capabilities and business continuity. What students will get in this course is the management and identification of information security risks and mitigation strategies and security threats. The learning activities in the first half of the semester end with a mid-semester exam on the topic of management and identification of information security risks and topics of mitigation strategies and security threats in the last half of the semester
Study and examination requirements and forms of examination	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom; Microsoft Teams).
Reading list	**Canon, David L**. CISA, Certified Information System Auditor, Study Guide, 2th edition. Wiley Publishing. 2008. **Pfleeger, Charles P and Pfleeger, Shari Lawrence**. Security in Computing. Pearson Education International. 2003. **Strebe, Matthew**. Network Security Foundations. SYBEX Inc. 2004.

Whitman, ME and Mattord, HJ. Principles of Information Security, 3th edition.Thomson Courses Technology. 2007.
Miller, Stewart S. Wi-Fi Security. McGraw-Hill. 2003.
Steven Splaine, Testing Web Security-Assessing the Security of Web Sites and Applications, Wiley Publishing, Inc., 2002
Harold F. Tipton, Mick Krause, Information Security Management Handbook, Auerbach Publication, 2007
_____, Information Technology – Code of practice for Information Security Management (ISO/IEC 17799:2000)
Chris Davis, Mike Schillerand, Kevin Wheeler, IT Auditing: Using Controls to Protect Information Assets, McGraw-Hill, 2007

Course Name

IT Investment Management

Code: IS184624	Credit: 3	Semester: 6

Module Name	IT Investment Management
Module level	Undergraduate
Code	IS184624
Semester	Spring (Genap)
Contact Person	Sholiq, S.T., M.Kom.
Lecturer	Sholiq, S.T., M.Kom. Dr. Apol Pribadi Subriadi, S.T., M.T.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 6th semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive 50% Case Method 50%
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 =180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase. • Have intrapersonal and interpersonal skills. • Have knowledge in organization management, IT process and artifact for business continuity. • Able to practice all skills in the nation & state with integrity & ethics. • Able and willing to internalize entrepreneurial spirit that suitable with the expertise in the current era.
Content	Along with the increasing portion of information technology (IT) costs for organizations, the current trend is that information technology is an investment. In contrast to investment in general, IT investment involves tangible and intangible costs and benefits. Therefore, it is important that IT managers do an investment analysis of alternative IT solutions to get the best solution by including tangible and intangible costs and benefits. IT solution alternatives include several IT resource models including IT outsourcing models. The Information Technology Investment Management (MITI) course provides students with experience in analyzing IT investments using financial and non-financial methods of tangible and intangible costs and benefits by providing options for IT solutions to solve organizational problems both individually and in team collaboration. **The learning method** used is inquiry, contextual, and final course projects to be completed in groups. **This course matter focuses** on the concept of IT investment and investment, needs analysis, IT investment performance measurement, financial techniques for IT investment, intangibility, cost benefit analysis, outsourcing, economic information, balanced score card, multi factor scoring, analytic hierarchy process, journal review, and final project. The final project of the course

	is intended to produce a work in the form of an IT investment analysis document and provide provisions for students to excel in the competition in the world of work.
Study and examination requirements and forms of examination	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	**Schniederjans, Marc J., Hamaker, Jamie L., Schniederjans, Ashlyn M.** (2010). Information Technology Investment: Decision-Making Methodology second edition, World Scientific Publishing Company. Singapore: World Scientific Publishing. **Parker, Marilyn M & Benson, Robert J.** (1990). Information Economics: Linking Business Performance to Information Technology. Prentice Hall College Div.

Couse Name

Digital Startup

Code: IS184625	Credits: 3	Semester: 6

Module Name	Digital Startup
Module level	Undergraduate
Code	IS184625
Semester	Spring (Genap)
Contact Person	Ir. Achmad Holil Noor Ali, M.Kom.
Lecturer	Ir. Achmad Holil Noor Ali, M.Kom. Radityo Prasetianto Wibowo, S.Kom, M.Kom.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 6th semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive 70%' Team Based 30%
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 =180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Have intrapersonal and interpersonal skills • Menghasilkan karya, karya ilmiah & kewirausahaan TI yang mampu memberikan solusi permasahan actual • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics • Able and willing to internalize entrepreneurial spirit that suitable with the expertise in the current era
Content	The progress of a country can be identified from the number of entrepreneurs that exist. Currently, entrepreneurship in the digital field is a favorite because it can grow fast and can exist in all sectors of life. This course will invite students to create digital entrepreneurs who can provide design solutions to society's actual problems. For this reason, the learning methods used in this course are in the form of expository, inquiry, contextual, problem solving and cooperation. This course material focuses on understanding the market and customers, business ideas and concepts, competitive advantage, product / service design, capitalization, marketing plans, positioning against competitors, business management and growth projections. The learning activities carried out include discussions, problem solving, guest lectures, pitching and exhibitions. At the end of the lesson, students have an innovative IT solution idea that is starting to be designed and realized in the form of a digital startup.
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).

Couse Name
Digital Startup

Code: IS184625	Credits: 3	Semester: 6

Reading list	**Steve Fisher & Ja-Nae Duane**, The Startup Equation: A Visual Guidebook to Building Your Startup, 2016 **Francisco S Homem de Mello**, Hacking the Startup Investor Pitch: What Sequoia Capital's business plan framework can teach you about building and pitching your company, 2014 **David S. Rose**, The Startup Checklist: 25 Steps to a Scalable, High-Growth Business, John Wiley & Sons, 2016 **Kevin D. Johnson**, The Entrepreneur Mind: 100 Essential Beliefs, Characteristics, and Habits of Elite Entrepreneurs, Johnson Media, Inc, 2013 **Adam Harrell**, Creative Direction in a Digital World: A Guide to Being a Modern Creative Director 1st Edition, CRC Press, 2017

Course Name

Pre Final Project

Code: IS184726	Credit: 2	Semester: 7

Module Name	Pre Final Project
Module level	Undergraduate
Code	IS184726
Semester	Fall (gasal)
Contact Person	Tony Dwi Susanto, S.T., M.T., Ph.D.
Lecturer	Tony Dwi Susanto, S.T., M.T., Ph.D.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive 40% Team Based 60%
Workload	1. Lectures: 2 x 50 = 100 minutes (1.66 hours) per week. 2. Discussion with supervisor: 4 x 60 per Semester. 3. Final Project Proposal presentation.
Credit points	2 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams. Must present student final project proposal.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase. • Have intrapersonal and interpersonal skills. • Produce IT based scientific and entrepreneurship products to solve actual problems. • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics • Able and willing to internalize entrepreneurial spirit that suitable with the expertise in the current era
Content	This course aims to make students able to formulate a strong background in Final Project (FP), formulate problems, conduct literature reviews to support Final Project, choose the right Final Project methodology, and write and present Final Project proposals.
Study and examination requirements and forms of examination	• Final Project Proposal Presentation • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	**Critical Thinking: A Student's Introduction**, Gregory Bassham, Mc-Graw Hill, 2005 **Formulating Research Methods for Information Systems**, Chris Sauer, Leslie P. Willcocks, Mary C. Lacity, Palgrave Macmillan, USA, 2013. **Research Methods: Information, Systems, and Contexts**, Kirsty Williamson, Graeme Johanson, Glyn Jones, 2018. **Ejaan Yang Disempurnakan (EYD)**, Arvin Mahardika, Frasa Lingua, 2016. **Critical Thinking Skills: Effective Analysis, Argument and Reflection**, Stella Cottrell, Palgrave Macmillan, 2017.

	Course Name **Pre Final Project**		
	Code: IS184726	Credit: 2	Semester: 7

	Scientific Research in Information Systems: A Beginner's Guide, Jan Recker, Springer, 2013. **Jurnal-jurnal di bidang Sistem Informasi.**

Course Name

IT Evaluation & Audit

Code: IS184727	Credits: 4	Semester: 7

Module Name	IT Evaluation & Audit
Module level	Undergraduate
Code	IS184727
Semester	Fall (gasal)
Contact Person	Anisah Herdiyanti, S.Kom., M.Sc.
Lecturer	Anisah Herdiyanti, S.Kom., M.Sc. Dr. Bambang Setiawan, S.Kom., M.T.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive methods (20%) Case Methods (30%) Team Based Project (50%)
Workload	1. Lectures: 4 x 50 = 200 minutes (3 hours 40 minutes) per week. 2. Private study: 4 x 60 = 240 minutes (4 hours) per week. 3. Assignment: 4 x 60 = 240 minutes (4 hours) per week.
Credit points	4 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solutions and alternatives into a study cases environment that are compromised to increase business performance and competitiveness • Have intrapersonal and interpersonal skills • Have knowledge in organization management, IT process and artifact for business continuity • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics
Content	Information technology monitoring and evaluation (IT Monev) focuses on measuring the performance of IT organizations in managing IT processes and their evaluation. The results of IT Monev can provide information on the achievement of IT organizational performance and areas of IT process management that need to be improved. Based on these results, an IT audit can be carried out which is a control inspection activity in the information technology (IT) process in order to minimize the occurrence of IT risks. This activity is part of an IT evaluation that directs IT resources to be managed to meet business goals and IT goals. This course focuses on 2 (two) things, namely: a) theory and practice of measuring organizational performance; and b) theory and practice of standardized IT audit tools arrangement. The material is presented in theory regarding the concept of M&E and IT Audit, as well as the practice of measuring the performance of the IT function and the preparation of IT Audit tools. Topics covered include: 1) The concept of IT monitoring and evaluation; 2) the concept of auditing in IT evaluation; 3) IT performance measurement method with IT Balanced Scorecard (IT BSC); and 4) Preparation of IT Audit (Audit Program) tools. At the end of this course, the

	students will be able to apply the IT performance measurement method into a small case study. Furthermore, they must evaluate and compile an IT Audit tool based on standardized IT Audit processes.
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	**Chorafas, D. N.** (2009). *IT Auditing and Sarbanes-Oxley Compliance: Key strategies for business improvement.* Broken Sound Parkway: Auerbach Publications. **Gregory, P. H.** (2010). Appendix A: Conducting a Professional Audit. In *All In One: CISA ® Certified Information Systems Auditor.* The McGraw-Hill Companies.

Matakuliah

IT Professional Ethics

Code: IS184728	CREDIT: 3	Semester: 7

Module Name	IT Professional Ethics
Module level	Undergraduate
Code	IS184728
Semester	Fall (gasal)
Contact Person	Irmasari Hafidz, S.Kom., M.Sc.
Lecturer	Nur Aini Rakhmawati, S.Kom., M.Sc.Eng., Ph.D
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive 40% Team Based 35% Case Methods 25%
Workload	1. Lectures: 2 x 50 = 100 minutes (1.5 hours) per week. 2. Private study: 2 x 60 =120minutes (2 hours) per week. 3. Assignment: 2 x 60 = 120 minutes (2 hours) per week.
Credit points	2credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Students understand ethics in business and its relevance to ethics in IT/ISStudents understand the code of ethics & ethical issues faced by IT professionals and users, professional IS/IT organizations • Students understand the different types of ethical decisions that IS/IT professionals must make • Students understand how the use of IT can affect privacy rights and understand some legal rules related to privacy rights • Students understand the various problems that arise as a result of using the Internet as a tool for freedom of expression • Students understand various key issues related to scientific wealth • Students understand ethics in software development and quality assurance • Students understand the ethics associated with using social networks • Students understand ethical issues faced by various IT organizations related to handling non-traditional workforce, work safety, environmental responsibility, and business efficiency.
Content	IT Professional Ethics provides knowledge and understanding of critical and responsible reflection on various issues in legal, ethical, and social aspects related to IS / IT.
Study and examination requirements and forms of examination	• Quiz 1 - 10 • Paperwork • Presentaion • Mid-term examination • Final examination
Media employed	LCD, whiteboard,Microsoft Teams

Matakuliah

IT Professional Ethics

Code: IS184728	CREDIT: 3	Semester: 7

Reading list	**George Reynolds**, Ethics in Information Technology, 5th Edition, ISBN 9781285197159, Cengage Learning, 2015. ACM: Code of Ethics and Professional Conduct, Online: https://ethics.acm.org/ **Stephen Northcutt, Cynthia Madden, Cynthia Welti**, IT Ethics Handbook: Right and Wrong for IT Professionals, Elsevier, 2004 – Computers ITE Law 2008

Course Name

Final Project

Code: IS184853	Credit: 4	Semester: 8

Module Name	Final Project
Module level	Undergraduate
Code	IS184853
Semester	Fall (gasal)
Contact Person	Nisfu Asrul Sani, S.Kom., M.Sc.
Lecturer	Ahmad Muklason, S.Kom., M.Sc., Ph.D.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students, Case Methods 100%
Workload	1. supervising discussion: 1 x 50 = 50 minutes per week. 2. Private study: 4 x 60 = 240 minutes (4 hours) per week.
Credit points	4 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	
Content	Students plan and complete projects / development on the topics discussed with the supervisor according to the methodology / studied in the previous lecture. Students hold regular discussions to discuss topics that are important for final project development, make proposals and present final project results. It is expected that students will be able to understand, explain, analyze and implement all knowledge and skills according to their interest in the field of expertise.
Study and examination requirements and forms of examination	• final project presentation and performance
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	Panduan Tugas Akhir, Kantor Penjaminan Mutu ITS Panduan Tugas Akhir, Sistem Informasi ITS

Matakuliah

Database Technology

Code: IS184929	CREDIT: 3	Elective

Module Name	Database Technology
Module level	Undergraduate
Code	IS184929
Semester	Fall (Gasal)
Contact Person	Radityo Prasetianto Wibowo, S.Kom, M.Kom.
Lecturer	Radityo Prasetianto Wibowo, S.Kom, M.Kom.
Language	Bahasa Indonesia, English
Relation to curriculum	Undergraduate degree program, optional, 7th semester
Type of teaching, contact hours	Cognitive 50% Team Based 50%
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 =180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase • Enhance the quality of business & IT integration that gives the organization competitiveness
Content	• **Database Index** : Anatomy Index, Where Condition, Join Condition, Soring and Grouping, Partial Result, Distributed Query, • **High Availability** : Asynchronous Replication, Master – Slave Replication, Master – Master Replication, Cluster, • **Teknology Cache** : Cache System, • **Message Broker** : Message Queue System, • **Document Oriented Database** : Document Oriented Database, • **Graph Database** : Graph Database, Graph Query, FoF based Query
Study and examination requirements and forms of examination	• Quiz • Mid-term examination • Final Examination
Media employed	LCD, whiteboard, classroom.its.ac.id
Reading list	**Markus Winand**, SQL Performance Explained Everything Developers Need to Know about SQL Performance **Martin L. Abbott**, The Art of Scalability: Scalable Web Architecture, Processes, and Organizations for the Modern Enterprise **Ian Robinson, Jim Webber, dan Emil Eifrem**, Graph Databases: New Opportunities for Connected Data **Training Kit** (Exam 70-462) Administering Microsoft SQL Server 2012 Databases (MCSA) (Microsoft Press Training Kit) **Kristina Chodorow**, MongoDB: The Definitive Guide: Powerful and Scalable Data Storage **Baron Scwartz**, High Performance MySQL: Optimization, Backups, Replication, and More

Matakuliah

Database Technology

Code: IS184929	CREDIT: 3	Elective

	Alvaro Videla and Jasin J.W. Williams, RabbitMQ in Action: Distributed Messaging for Everyone

Course Name

Web Technology

Code: IS184930	CREDIT: 3	Elective

Module Name	Web technology
Module level	Undergraduate
Code	IS184930
Semester	Fall & Spring (gasal & Genap)
Contact Person	Nur Aini Rakhmawati
Lecturer	Nur Aini Rakhmawati
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, Elective, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 40% Team Based 30% Case Method 30%
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase • Enhance the quality of business & IT integration that gives the organization competitiveness • Have intrapersonal and interpersonal skills • Have knowledge in organization management, IT process and artifact for business continuity • Apply expertise to the nation and country with integrity and ethics
Content	We are surrounded by data everywhere. By helping us make better decisions, data plays a central role in our daily lives. An increasing number of data sources, driven by individuals and organizations, are contributing to this data flood by sharing their data with others. However, data is locked behind a proprietary, unreliable and even unstable programming interface which prevents us from making optimal use of it. Linked Data has the potential to revolutionize the way we find, access, integrate and use data; only in a way the World Wide Web has revolutionized the way we consume and connect documents. This course will introduce you to the basic principles and technologies of Linked Data to enable data sharing and reuse on a large scale. Accompanied by ontology, namely the representation of knowledge based on Semantic Web technology, Linked Data serves as the main building block of the emerging Web Data.
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination

Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	1. Antoniou, Grigoris, and Frank Van Harmelen. A semantic web primer (Cooperative Information Systems) – 3rd edition". MIT press, 2012 2. Tom Heath and Christian Bizer (2011) Linked Data: Evolving the Web into a Global Data Space (1st edition). Synthesis Lectures on the Semantic Web: Theory and Technology, 1:1, 1-136. Morgan & Claypool. 3. DuCharme, B. St. Laurent, S. & Perez, J., ed. (2011), Learning SPARQL .

Matakuliah

Pengolahan Bahasa Alami

Code: IS184931	CREDIT: 3	Elective

Course Description

Natural Language Processing includes the theoretical and technical basics of unstructured data processing in the form of communication carried out in natural language, especially in the form of text.

Program Learning Outcomes

- Enhance the quality of business and IT integration that gives the organization competitiveness
- Apply logic and mathematics, statistics, physics, chemistry to solve various business problems
- Have intrapersonal and interpersonal skills
- Produce works, scientific works and IT entrepreneurship that are able to solve actual problems
- Able and willing to internalize entrepreneurial spirit that suitable with the expertise in the current era

Course Learning Outcomes

Specific Skills

- Integrate data & transform it into information that is used to improve organizational competitiveness
- Analyze data & information to find critical findings that support intelligent business decision making & solutions

General Skills

- Apply logic & math for solving business problem
- Use statistics to help find business solutions
- Able to apply logical, critical, systematic, & innovative thinking in the context of developing or implementing science & technology that pays attention to & applies humanities values by their field of expertise
- Able to show independent, quality & measurable performance
- Able to make decisions appropriately in the context of problem solving in their area of expertise, based on the results of information & data analysis
- Able to develop themselves & compete at national and international levels
- Able to implement information & communication technology in the context of the implementation of their work
- Have innovative IT ideas as a solution to actual problems
- Create works, scientific works & / IT entrepreneurship that provides design solutions to actual problems

Attitude

- Internalize the spirit of independence, struggle, and entrepreneurship
- Try its best to achieve perfect results

Specific Learning Outcome

Cognitive :

- Students are able to understand the basic concepts of NLP
- Students are able to understand computational techniques to implement NLP
- Students are able to extract information using NLP techniques

Psychomotor :

- Students are able to apply NLP techniques to data in accordance with the appropriate programming library
- Students are able to analyze the output of the techniques used and make adjustments to achieve the best performance
- Students are able to write the results of work and analysis into a scientific work

Matakuliah

Pengolahan Bahasa Alami

Code: IS184931	CREDIT: 3	Elective

Course Materials

- **The basic components of NLP:** word, morphology, lexicon
- **Language modelling dan smoothing,**
- **Noisy channel model dan edit distance,**
- **Classification,**
- **Part-of-speech tagging,**
- **Hidden Markov Model,**
- **A syntactic representation of natural language,**
- **Treebanks,**
- **The latest techniques in NLP**

Main References

1. Jurafsky, D and J. H. Martin, *Speech and Language Processing, 3rd edition* (online 2017)

Additional References

1. Chris Manning and Hinrich Schütze, *Foundations of Statistical Natural Language Processing*, MIT Press. Cambridge, MA: May 1999.
2. Bird, S., E. Klein and E. Loper, *Natural Language Processing with Python*. O'Reilly Media: 2009.
3. Paper-paper yang relevan.

Course Name

Information Visualization

Code: IS184932	CREDIT: 3	Elective

Module Name	*Information Visualization*
Module level	Undergraduate
Code	IS184932
Semester	Fall & Spring (gasal & Genap)
Contact Person	Faizal Johan Atletiko, S.Kom, MT.
Lecturer	Faizal Johan Atletiko, S.Kom, MT.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, Elective, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 70% Team Based 25% Case Method 30%
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Manage various resources to realize IT solutions that are safe, high quality, fast & affordable; • Menganalisis data & informasi untuk memperoleh temuan penting yang mendukung pembuatan keputusan & solusi bisnis secara cerdas; • Able to apply logical, critical, systematic, & innovative thinking in the context of developing or implementing science & technology that pays attention to & applies humanities values by their field of expertise; • Have knowledge of current & future IT environment (including processes, organizations, applications, infrastructure, IT people, data)
Content	Information Visualization contains courses that focus on using visualization techniques to help people understand and analyze data.
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	1. Robert Spence. (2001). Information visualization (Vol. 1). Reading: Addison-Wesley. 2. Tamara Munzner. (2014). Visualization Analysis and Design. A K Peters Visualization Series, CRC Press. Available online: http://www.cs.ubc.ca/~tmm/vadbook/

Course Name

Mobile Technology

Code: IS184933	CREDIT: 3	Elective

Module Name	*Mobile Technology*
Module level	Undergraduate
Code	IS184933
Semester	Fall & Spring (gasal & Genap)
Contact Person	Nisfu Asrul Sani, S.Kom., M.Sc.
Lecturer	Nisfu Asrul Sani, S.Kom., M.Sc.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, Elective, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 50% Team Based 25% Case Method 25%
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase • Have intrapersonal and interpersonal skills • Produce IT based scientific and entrepreneurship products to solve actual problems • Apply expertise to the nation and country with integrity and ethics • Able and willing to internalize entrepreneurial spirit that suitable with the expertise in the current era
Content	Mobile technology is a course that studies how to make use of mobile devices, for example cell phones or portable computers to access data or information through computer networks. The learning methods used include lectures, discussions, project-based assignments, and practice coding. This course will focus on current problems that are developing, how to find alternative solutions, how to pour into simple application designs, followed by implementations that try to make the most of the capabilities of mobile devices
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	1. Google Inc, Android Developer Fundamentals Course, 2016 (https://www.gitbook.com/book/google-developer-training/android-developer-fundamentals-course-concepts/details)

Course Name

Mobile Technology

Code: IS184933	CREDIT: 3	Elective

Course Name

Internet of Things

Code: IS184934	Credits: 3	Elective

Module Name	Internet of Things
Module level	Undergraduate
Code	IS184934
Semester	Fall & Spring (gasal & Genap)
Contact Person	Dr. Eng. Febriliyan Samopa, S.Kom., M.Kom.
Lecturer	Dr. Eng. Febriliyan Samopa, S.Kom., M.Kom.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, Elective, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 25% Team Based 75% Case Method 0%
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Plan an improvement of the quality of business & IT integration that deliver competitiveness to the organization • Produce scientific papers & IT entrepreneurship that can solve actual problems • Have knowledge of current & future IT environment (including processes, organizations, applications, infrastructure, IT people, data) • Contribute on improving the quality of life in society, nation, state, and advancement of civilization based on Pancasila
Content	This course looks at the "Internet of Things (IoT)" as the general theme of physical/real-world things becoming increasingly visible and actionable via Internet and Web technologies. The goal of the course is to look top-down as well as bottom-up, to provide students with a comprehensive understanding of the IoT. By looking at a variety of real-world application scenarios of the IoT and diverse implemented applications, the various understandings and requirements of IoT applications become apparent. This allows students to understand what IoT technologies are used for today, and what is required in certain scenarios. By looking at a variety of existing and developing technologies and architectural principles, students gain a better understanding of the types of technologies that are available and in use today and can be utilized to implement IoT solutions. Finally, students will be given the opportunity to apply these technologies to tackle scenarios of their choice in teams of two or three, using an experimental platform for implementing prototypes and testing

	them as running applications. At the end of the semester, all project teams will present their completed projects.
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	2. Massimo Banzi (2008) Getting Started with Arduino.

Course Name

Digital Forensics

Code: IS184935	CREDIT: 3	Elective

Module Name	Digital Forensics
Module level	Undergraduate
Code	IS184935
Semester	Fall (Gasal)
Contact Person	Ir. Achmad Holil Noor Ali, M.Kom.
Lecturer	Ir. Achmad Holil Noor Ali, M.Kom.
Language	Bahasa Indonesia, English
Relation to curriculum	Undergraduate degree program, optional, 7th semester
Type of teaching, contact hours	Cognitive 50% Team Based 25% Case Methods 25%
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 =180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase • Have intrapersonal and interpersonal skills • Have knowledge in business and IT • Able and willing to internalize entrepreneurial spirit that suitable with the expertise in the current era
Content	• Foundation of Investigations • Data Analysis • Acquisition Techniques • Authentication Techniques • Volume Analysis • File System Analysis • Windows File System • Mac and Unix/Linux File System • Common Forensics Techniques • Data Hiding Techniques • Recovering Graphic Files • Virtual Machines • Network Forensics • E-mail Forensics • Web-Browsing Reconstruction • Cell Phone and Mobile Device Forensics • Steganography
Study and examination requirements and forms of examination	• Quiz • Mid-term examination • Final Examination
Media employed	LCD, whiteboard, classroom.its.ac.id

Course Name
Digital Forensics

Code: IS184935	CREDIT: 3	Elective

Reading list	**Brian Carrier. File System Forensic Analysis**. Addison Wesley, 2005. (ISBN:0-32-126817-2) **George Mohay, et al. Computer and Intrusion Forensics**. Artech House, 2003. (ISBN:1-58053-369-8) **Eoghan Casey. Digital Evidence and Computer Crime**: Forensic Science, Computers, and the Internet. **Sammes, Tony, Jenkinson, Brian; Forensic Computing**; Springer-Verlag, Ltd.; 2000 (ISBN 1-85233-299-9)

Course Name

Cyber Security

Code: IS184936	Credit: 3	Elective Course

Module Name	Cyber Security
Module level	Undergraduate
Code	IS184936
Semester	Fall & Spring (gasal & Genap)
Contact Person	Bekti Cahyo Hidayanto, S.Si., M.Kom.
Lecturer	Bekti Cahyo Hidayanto, S.Si., M.Kom.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, Elective, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 50% Team Based 25% Case Method 25%
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase • Have intrapersonal and interpersonal skills • Have knowledge in business and IT • Able and willing to internalize entrepreneurial spirit that suitable with the expertise in the current era
Content	The challenges of securing information in modern companies and organizations are increasing. Information security threats are increasingly sophisticated, comprehensive and powerful. The cybersecurity course presents several topics related to how to secure modern companies and organizations. These topics include design and policy making, organizational roles, security measures, risk management, standards and regulations, physical security, and business continuity.
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	3. Rhodes-Ousley, Mark. Information Security: The Complete Reference, Second Edition, . Information Security Management: Concepts and Practice. New York, McGraw-Hill, 2013.

Course Name

IT Risk & Quality Management

Code: IS184937	Credit: 3	Elective Course

Module Name	IT Risk & Quality Management
Module level	Undergraduate
Code	IS184937
Semester	Fall & Spring (gasal & Genap)
Contact Person	Anisah Herdiyanti, S.Kom., M.Sc.
Lecturer	Anisah Herdiyanti, S.Kom., M.Sc.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, Elective, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 73% Team Based 0% Case Method 23%
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Students are able to understand the concept of organizational goals and obstacles in their achievement. • Students are able to understand how the process is to identify IT risks. • Students understand how the process is to improve the effectiveness of the quality management system in organizations • Students are able to identify IT risks and their effects on achieving organizational goals. • Students are able to determine the appropriate actions to handle each risk in order to avoid unwanted impacts. • Students are able to formulate processes to increase the effectiveness of the quality management system in the organization. • Students are able and willing to behave honestly. • Students are able and willing to behave communicatively. • Students are able and willing to behave responsibly
Content	• Quality concept and quality management; • Quality management components: quality planning, quality assurance, quality control and quality improvement; • Methods for quality improvement and standards for quality; • The concept of goals in the context of the organization as well as threats to achieving its goals; • Basic concepts of risk and risk management as well as the importance of risk management in achieving organizational goals; • Identification and analysis of possible risks; • Evaluating the risks that have been identified and determining the risks that need to be controlled and the risks that are acceptable;

	• Recommend actions to control risk based on standards; • Establish procedures to review, monitor and verify risks;
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	4. Joseph Berk and Susan Berk. 2000. Quality Management for Information Technology Sector. Newnes: Butterworth-Heinemann. ISBN 0-7506-7316-8 5. Jake Kouns and Daniel Minoli. 2010. Information Technology Risk Management In Enterprise Environments. John Wiley & Sons, Inc: Hoboken, New Jersey. ISBN 978-0-471-76254-6

Course Name

IT Governance

Code: IS184938	Credit: 3	Elective Course

m	IT Governance
Module level	Undergraduate
Code	IS184938
Semester	Fall & Spring (gasal & Genap)
Contact Person	Tony Dwi Susanto, S.T., M.T., Ph.D.
Lecturer	Tony Dwi Susanto, S.T., M.T., Ph.D.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, Elective, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 50% Team Based 25% Case Method 25%
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase • Have intrapersonal and interpersonal skills • Have knowledge in organization management, IT process and artifact for business continuity • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics
Content	IT governance is a necessity for organizations that support their success in IT. The emergence of risks for the use of IT in organizations cannot be denied and must be anticipated through the arrangement of IT management by the international standard IT framework & best practices. This course will provide students with knowledge of the framework & best practices that are widely used by world-class organizations in IT management & experience in compiling IT governance documents. For this reason, the learning methods used are Articulation, Problem Based Instruction, and Project-Based Learning, both involving individuals and groups. This course will focus on the Concept of IT Governance; IT control-based risk management; IT Governance Framework; & IT Governance Documents. Understanding of IT governance concepts & experience in compiling IT governance documents in this course will provide added value for students to be able to manage IT in the organization where they work later.
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3

	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	6. Robert R. Moeller, Executive's Guide to IT Governance: Improving Systems Processes with Service Management, COBIT, and ITIL, Wisley, 2013.

Course Name

Organization Change Management

Code: IS184939	Credits: 3	Optional

Module Name	Organizational Change Management
Module level	Undergraduate
Code	IS184939
Semester	Fall (gasal)
Contact Person	Dr. Apol Pribadi Subriadi, S.T., M.T.
Lecturer	Dr. Apol Pribadi Subriadi, S.T., M.T.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, optional, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive Methods 45% Team Based 25% Case Methods 30%
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 =180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement various alternative IT solutions that are compromised in order to increase organizational performance & competitiveness • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics
Content	Change is often a complex, difficult and unavoidable process. Managing change on a personal and organizational level requires new thinking, new models for change and new frameworks and tools to enable the smooth implementation of the desired changes. The course in Organizational Change Management will provide students with experience in being able to manage change in an organization, as well as being able to apply it to changes in individual behavior and thinking. The Organizational Change Management course will provide an understanding of the concepts of change and change management best practices that can be applied to a variety of changes to drive change success.
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	1. Stephen P. Robbins and Timothy A. Judge, Oragizational Behavior, Seventeenth Edition, Perason Education Limited, 2017 2. Prosci ADKAR Model, A Goal Oriented Change Management Model to Guide Individual and Organizational Change, Prosci Inc, 2017

	3. Related journals which explains about best change management such as framework or best practices about awareness, desire, knowledge, ability and reinforcement (ADKAR)

Course Name

Business Continuity Management

Code: IS184940	Credits: 3	Optional

Module Name	Business Continuity Management
Module level	Undergraduate
Code	IS184940
Semester	Fall (Ganjil)
Contact Person	Dr. Apol Pribadi Subriadi, S.T., M.T.
Lecturer	Dr. Apol Pribadi Subriadi, S.T., M.T.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, optional, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 20% Team Based 30% Case Methods 50%
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Enhance the quality of business & IT integration that gives the organization competitiveness • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics
Content	Business continuity is very crucial. In general, there are two challenges when an organization or company is running. External challenges are often in the form of competition and internal challenges in the form of disruption to business processes. This course will provide knowledge and skills to ensure the company and its business processes can continue when external or internal changes occur. Management actions to ensure business continuity based on a resource-based approach will be discussed to face the challenges of external competition, while an IT risk management-based approach will be studied to respond to internal business process disruptions. Documents for these two types of management action are known as business continuity plans or strategies.
Study and examination requirements and forms of examination	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	**James C. Barnes**, A Guide to Business Continuity Planning, John Wiley and Sons, 2011 **Asis International Advancing Security Worldwide**, Business Continuity Guideline: A Practical Approach For Emergency Preparedness, Crisis Management, and Disaster Recovery, 2005, Asis International ISO 22317:2015 COBIT 5

Course Name

Business Continuity Management

Code: IS184940	Credits: 3	Optional

	Business Continuity Management Systems

Course Name

Forecasting Technique

Code: IS184941	Credits: 3	Optional

Module Name	Forecasting Techniques
Module level	Undergraduate
Code	IS184941
Semester	Fall (Gasal)
Contact Person	Wiwik Anggraeni, S.Si., M.Kom.
Lecturer	Wiwik Anggraeni, S.Si., M.Kom.
Language	Bahasa Indonesia, English
Relation to curriculum	Undergraduate degree program, optional, 7th semester
Type of teaching, contact hours	Cognitive 50% Team based 50%
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 =180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Enhance the quality of business & IT integration that gives the organization competitiveness • Have intrapersonal and interpersonal skills • Have knowledge in organization management, IT process and artifact for business continuity • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics
Content	• **Forecasting concepts:** data form (time series, cross sectional), technique category (qualitative, quantitative), quantitative model (explanatory, time series), qualitative model (explanatory,normative); • basic forecasting, forecasting accuracy measurement; • forecasting resource (software, association, seminar, journal); • **Forecasting methods, consists of: moving average:** simple, centered, double, weighted; • **Exponential smoothing :** single, double, triple, adaptive**;** • **Decomposition:** additive, multiplicative; • **Regression :** simple, multiple liniear; • **Box-jenkins :** ARIMA model, seasonal, non-seasonal **and ARIMA improvements** (ARIMAX, SARIMAX, ARIMA ARCH, ARIMA GARCH); • **Artificial Neural Network (ANN);** • **Fuzzy;** • **Collaborations previouse methods.**
Study and examination requirements and forms of examination	• Quiz • Mid-term examination • Final Examination
Media employed	LCD, whiteboard, classroom.its.ac.id
Reading list	**Galith Shmueli, Kenneth C. Lichtendahl Jr.**, *Practical Time Series Forecasting with R: A Hands-On Guide 2th edition*, Axelrod Schnall Publishers, 2016

Richard A. Davis, Peter J. Brockwell., *Introduction to Time Series and Forecasting 3th edition*, Springer, 2016

Rob J. Handyman, George A., *Forecasting Principles and Practice, 9th edition*, Otexts, 2013

Hanke, John E., Wichern, Dean W., *Business Forecasting 9th edition*, Prentice Hall, 2008

Makridakis, Spyros., Wheelwright, Steven C., Hyndman, Rob J. *Forecasting : Methods and Applications 3rd edition*, John Wiley & Sons, 2008

Bowerman, Bruce L., O'Connell, Richard T., Koehler, Anne B. *Forecasting, Time Series and Regression* 4th edition, Thomson Brooks/Cole, 2005

John E., Silvia, Sarah Watt, Kaylin S, et.al. Economic and Business Forecasting: Analyzing and Interpreting Economic Result. Wiley. 2014

Francis X. Diebold. Element of Forecasting. South-Western Thomson Learning, 2nd edition, 2000

Robert Yaffee, Monnie McGee. Intorduction to Time Series Analysis and Forecasting, with Application of SAS and SPSS. Academic Press Inc. 2000

Course Name

Decision Support System

Code: IS184942	Credits: 3	Elective Course

Module Name	Decision Support System
Module level	Undergraduate
Code	IS184942
Semester	Fall (Ganjil)
Contact Person	Dr. Retno Aulia Vinarti, S.Kom., M.Kom.
Lecturer	Dr. Retno Aulia Vinarti, S.Kom., M.Kom. Feby Artwodini Muqtadiroh, S.Kom., MT.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, optional, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Case Methods 100%
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Enhance the quality of business & IT integration that gives the organization competitiveness • Implement logic and math, statistics, physics, chemistry to solve business problems • Have knowledge in business and IT • Able and willing to internalize entrepreneurial spirit that suitable with the expertise in the current era
Content	The availability of information is needed by businesses in line with the rapid development of information technology. This allows business people to process their data so that it becomes very useful information to support business decision making. Business actors who are unable to meet the need for information will be crushed by their competitors. The sis course will provide students with experience in understanding the business needs of information for decision making and how this information is processed from existing raw data. In addition, students are also directed to create a system that can be used to process data into information using methods that have been previously studied and can be applied to real problems. For this reason, the learning method used is to provide projects in groups to solve problems in decision making and create systems that can be used to solve these problems. This subject matter is the basis of decision theory, computerized decisions, data analysis problems with certain methods and their implementation. Students can produce a work of a decision support system that can be used by students as a portfolio and provision to excel in competition in the working world.
Study and examination requirements and forms of examination	• Quiz 1, 2, and 3 • Final project

Course Name
Decision Support System

Code: IS184942	Credits: 3	Elective Course

Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	**Turban, Aronson, and Liang**. Decision Support Systems and Intelligent Systems, Seventh Edition **Paul Browne**, JBoss Drools Business Rules **Michael Rovatsos**, Lecture Notes Professor of Knowledge Management from Edinburgh University, Concept of Knowledge Management and Knowledge Management in Information Technology.

Matakuliah

Data Mining

Code: IS184943	CREDIT: 3	Elective

Module Name	Data Mining
Module level	Undergraduate
Code	IS184943
Semester	Fall (Gasal)
Contact Person	Prof. Dr. Ir. Arif Djunaidy, M.Sc.
Lecturer	Prof. Dr. Ir. Arif Djunaidy, M.Sc.
Language	Bahasa Indonesia, English
Relation to curriculum	Undergraduate degree program, optional, 7th semester
Type of teaching, contact hours	Cognitive 50% Team Based 50%
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Private study: 3 x 60 =180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase • Implement logic and math, statistics, physics, chemistry to solve business problems • Have intrapersonal and interpersonal skills • Produce IT based scientific and entrepreneurship products to solve actual problems • Have knowledge in organization management, IT process and artifact for business continuity • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics
Content	• **Overview:** basic understanding, motivation and challenges, the origin of data mining, data mining tasks • **Data:** data types, data quality, data preprocessing, similarity and dissimilarity measurements • **Data exploration:** summary statistics, visualization, and analysis of multi-dimensional data • **Classification:** general approach to solving classification problems, decision tree induction, overfitting models, classification performance evaluation, methods for comparing various classifiers, rule-based classifiers, nearest-neighbor algorithm-based classifiers, Bayesian classifiers, neural network-based classifiers, support vector machines (SVM), ensemble methods, class imbalance problems • **Cluster analysis:** introduction, K-means, agglomerative hierarchy clustering, density based clustering algorithm, prototype based clustering algorithm, cluster evaluation • **Anomaly detection:** introductory, statistical based approach, density based outlier detection, cluster based techniques

	• **Association analysis:** problem definition, frequent itemset generation, rule generation, representation of frequent itemsets, alternative methods for generating frequent itemsets, FP-Growth algorithm, evaluation of association patterns, handling of categorical and continuous attributes, handling of hierarchical concepts, sequential patterns • **Text mining**: information extraction, information retrieval, topic tracing, text categorization, text clustering, concept linkages, text summaries
Study and examination requirements and forms of examination	• Quiz • Mid-term examination • Final Examination
Media employed	LCD, whiteboard, classroom.its.ac.id
Reading list	**Pan-Ning Tan, Michel Steinbach, dan Vipin Kumar**, "Introduction to Data Mining", Pearson, Adison Wesley, 2006 **Yanchang Zao**, "R and Data Mining: Examples and Case Studies", Published by Elsevier, 2013 (e-book) **Luis Torgo**, "Data Mining with R: Learning with Case Studies", CRC Press, 2011 (e-book)

Course Name

Combinatoric & Heuristic Optimization

Code	Credits: 3	Optional
Code: IS184944		

Module Name	Combinatoric & Heuristic Optimization
Module level	Undergraduate
Code	IS184944
Semester	Fall (Ganjil)
Contact Person	Ahmad Muklason, S.Kom., M.Sc., Ph.D.
Lecturer	Ahmad Muklason, S.Kom., M.Sc., Ph.D. Raras Tyasnurita, S.Kom., M.BA, Ph.D.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, optional, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 40% Team Based 40% Case Methods 20%
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase • Have intrapersonal and interpersonal skills • Have knowledge in organization management, IT process and artifact for business continuity
Content	In this course, students will learn to solve combinatoric optimization problems using an approximation algorithm / non-deterministic algorithm. The combinatoric optimization problems studied include Boolean Satisfiability Problem, Bin Packing Problem, Traveling Salesman Problem (TSP), Vehicle Routing Problem (VRP), and Timetabling & Scheduling Problem. Meanwhile, the algorithm studied includes hill-climbing, meta-heuristics: taboo search, neighborhood search-based algorithm: simulated annealing, great deluge, iterated local search; population-based algorithms: genetic algorithm, ant colony; hyper-heuristics.
Study and examination requirements and forms of examination	• Coursework Assesment 1, 2, 3, 4, 5 • Computing Assesment 1, 2, 3, 4, 5, 6 • Mid-term examination • Final project
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	**Burke, Edmund K., and Graham Kendall**. Search methodologies. Springer Science+ Business Media, Incorporated, 2005. **Papadimitriou, C.H. and Steiglitz, K**. Combinatorial optimization: algorithms and complexity. Courier Corporation. 1998.

Course Name

Supply Chain Management

Code: IS184945	Credits: 3	Elective

Module Name	Supply Chain Management
Module level	Undergraduate
Code	IS184945
Semester	Fall & Spring (gasal & Genap)
Contact Person	Mahendrawathi ER., S.T., M.Sc., Ph.D.
Lecturer	Mahendrawathi ER., S.T., M.Sc., Ph.D.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, Elective, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 34% Team Based 50% Case Method 16%
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Plan an improvement of the quality of business & IT integration that deliver competitiveness to the organization • Use basic of logic & mathematics, statistics, physics, chemistry to solve various business problems • Demonstrate intrapersonal & interpersonal skills in business environment • Produce scientific papers & IT entrepreneurship that can solve actual problems • Recognize basic concept of managing IT organizations, processes & artifacts for business continuity • Recognize basic knowledge of business & IT • Demonstrate all of the expertise for the nation & country • Demonstrate the spirit of entrepreneurship in accordance with his expertise
Content	To increase competitive advantage in today's business environment, organizations cannot only judge by the organization itself, but must consider and cooperate with other organizations in supply chain network. Supply chain network management involves the flow of materials, information and money and thus requires a variety of approaches. The ability of all supply chain flows at various levels, namely strategic, tactical and operational by utilizing the latest information technology, is the key to organizational excellence. This course will provide students with knowledge about the main processes of supply chain management and management of information flow in the supply chain with the latest IS / IT to improve supply chain performance. For this reason, the learning methods used are lectures, discussions, presentations, supply chain problem solving and project-based assignments to solve real supply chain problems.

Course Name
Supply Chain Management

Code: IS184945	Credits: 3	Elective

	This course matter will focus on the concept of supply chain management; supply chain management business processes, the role of information, as well as information technology and systems in supporting supply chains & management experience in identifying problems as well as IT components in solving problems in real supply chains.
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	7. Pujawan, N., dan ER, Mahendrawathi, 2017, Supply Chain Management: Edisi III, Andi Offset 8. Chopra, Sunil., & Meindl, Peter., 2007, Supply Chain Management: Strategy, Planning and Operation, Prentice-Hall. 9. Simchi-Levi, David, Kaminsky, P., and Simchi-levi, E., 2003, Designing and Managing the Supply Chain: Concepts, Strategy, and Case Studies, Second Edition, McGraw-Hill. 10. Laudon, K and Laudon, J. P., Management Information Systems: Managing the Digital Firm 15th Ed, Prentice-Hall. 11. Croxton, K. L., Garcia-Dastugue, S., Lambert, D.M., Rogers, D.S., (2001), The Supply Chain Management Processes, International Journal of Logistics Management, Vol. 12, No. 2. 12. Wisner, J. D. and Stanley, L. L. (2008), Process Management: Creating Value along the Supply Chain, Thomson Higher Education.

Course Name

Customer Relationship Management

Code: IS184946	Credits: 3	Elective

Module Name	Customer Relationship Management
Module level	Undergraduate
Code	IS184946
Semester	Fall & Spring (gasal & Genap)
Contact Person	Dr. Mudjahidin, S.T., M.T.
Lecturer	Dr. Mudjahidin, S.T., M.T.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, Elective, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 20% Team Based 0% Case Method 80%
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Use an IT solution and its alternatives that improve business performance & competitiveness • Plan an improvement of the quality of business & IT integration that deliver competitiveness to the organization • Use basic of logic & mathematics, statistics, physics, chemistry to solve various business problems • Demonstrate intrapersonal & interpersonal skills in business environment • Produce scientific papers & IT entrepreneurship that can solve actual problems • Recognize basic concept of managing IT organizations, processes & artifacts for business continuity • Recognize basic knowledge of business & IT • Demonstrate all of the expertise for the nation & country • Demonstrate the spirit of entrepreneurship in accordance with his expertise
Content	To increase competitive advantage in today's business environment, organizations cannot only judge by the organization itself, but must consider and cooperate with other organizations in supply chain network. Supply chain network management involves the flow of materials, information and money and thus requires a variety of approaches. The ability of all supply chain flows at various levels, namely strategic, tactical and operational by utilizing the latest information technology, is the key to organizational excellence. This course will provide students with knowledge about the main processes of supply chain management and management of information flow in the supply chain with the latest IS / IT to improve supply chain performance. For this

	reason, the learning methods used are lectures, discussions, presentations, supply chain problem solving and project-based assignments to solve real supply chain problems. This course matter will focus on the concept of supply chain management; supply chain management business processes, the role of information, as well as information technology and systems in supporting supply chains & management experience in identifying problems as well as IT components in solving problems in real supply chains.
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	13. Pujawan, N., dan ER, Mahendrawathi, 2017, Supply Chain Management: Edisi III, Andi Offset 14. Chopra, Sunil., & Meindl, Peter., 2007, Supply Chain Management: Strategy, Planning and Operation, Prentice-Hall. 15. Simchi-Levi, David, Kaminsky, P., and Simchi-levi, E., 2003, Designing and Managing the Supply Chain: Concepts, Strategy, and Case Studies, Second Edition, McGraw-Hill. 16. Laudon, K and Laudon, J. P., Management Information Systems: Managing the Digital Firm 15th Ed, Prentice-Hall. 17. Croxton, K. L., Garcia-Dastugue, S., Lambert, D.M., Rogers, D.S., (2001), The Supply Chain Management Processes, International Journal of Logistics Management, Vol. 12, No. 2. 18. Wisner, J. D. and Stanley, L. L. (2008), Process Management: Creating Value along the Supply Chain, Thomson Higher Education.

Course

Model Driven DSS

Code: IS184947	Credit: 3	Optional

Module Name	Model Driven DSS
Module level	Undergraduate
Code	IS184947
Semester	Fall & Spring (gasal & Genap)
Contact Person	Prof. Erma Suryani, S.T., M.T., Ph.D.
Lecturer	Prof. Erma Suryani, S.T., M.T., Ph.D.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, Elective, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 15% Team Based 40% Case Method 45%
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement various alternative IT solutions that are compromised in order to increase business performance and competitiveness • Implement logic and math, statistics, physics, chemistry to solve business problems • Produce works, scientific works and IT entrepreneurship that are able to solve actual problems • Have knowledge of business, organization & IT management details to produce superior scientific or entrepreneurial work in the IT field that is competitive in the national / global market • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics
Content	Model-Based Decision Support Systems focus on access to manipulating simulation models whose outputs can be used as a basis for decision making. Model-Based Decision Support Systems use data and parameters provided by decision makers to assist decision makers in analyzing several situations required in decision making. Simulation is done as a technique for conducting several experiments that test the various outputs that are generated from the model. Simulation models can help in projecting future system conditions to improve the performance of the system being explored. Model-based Decision Support Systems provide managers with simulation models and analytical skills that can be used during the decision-making process. Comprehensive and accurate analysis is required in decision making. Decision makers need to understand analysis and modeling tools. Building several types of models requires systems understanding skills as a basis for building models. This course provides provisions in conducting system analysis, model development, model simulation, model

	validation, and development of several scenarios to select alternatives in decision making. The selection of alternatives is based on a scenario that can produce optimal benefits, with minimal costs and risks. The scenario model output can be used as input in the development of a decision support system. Furthermore, this course can produce a simulation model that can increase effectiveness and efficiency in decision making so that it can provide provisions for prospective graduate students in conducting supervision, managerial, and competence in competition in the world of work.
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	19. Suryani, E., Pemodelan dan Simulasi, Graha Ilmu, 2005. 20. Sterman, J. D., Business Dynamics, Systems Thinking and Modeling for a Complex World, 2000. 21. Barlas, Y.,Multiple tests for validation of system dynamics type of simulation models, European Journal of Operational Research 42 (1989) pp. 59-87. 22. Hague, P, Forecasting & Scenario Planning, B2B International, 2010. 23. D. J. Power, 2001, Building Model-Driven Decision Support Systems 24. Ptolemaeus, C., 2014, System Design, Modelling, and Simulation

Matakuliah

Bisnis Digital

Code: IS184948	CREDIT: 3	Elective

Module Name	Digital Business
Module level	Undergraduate
Code	IS184948
Semester	Fall & Spring (gasal & Genap)
Contact Person	Rully Agus Hendrawan, M.Eng.
Lecturer	Rully Agus Hendrawan, M.Eng.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, Elective, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 0% Team Based 100% Case Method 0%
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Implement IT solution alternatives that are compromised so that business performance and competitiveness increase • Enhance the quality of business and IT integration in organizations • Have intrapersonal and interpersonal skills • Produce works, scientific works, & IT entrepreneurship that are able to solve actual problems • Have knowledge in organization management, IT process and artifact for business continuity • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics • Able and willing to internalize entrepreneurial spirit that suitable with the expertise in the current era
Content	Organizations cannot escape the fact that digital technology has changed traditional business models. Digital technology offers both advantages and challenges for organizations. Therefore, organizations must understand how to take advantage of the opportunities that digital technology offers to support their operations, while at the same time addressing the challenges and changes brought about by digitalization. This course will provide students with knowledge of digital business concepts and experiences to analyze online markets and create digital business strategies. For this reason, the learning methods used are lectures, discussions, case studies, project-based assignments to implement digital business. This course material will focus on digital business concepts as well as electronic commerce, online markets, digital business environments and strategic process models that are right for digital businesses.

Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	25. Chaffey, D., 2015, Digital Business and e-Commerce Management: Strategy, Implementation and Practice, Pearson Education Limited. 26. Manouvrier, Bernard and Menard, Laurent (2007), Application Integration: EAI, B2B, BPM, and SOA, John Wiley & Sons, Inc. 27. Roshen, Waseem (2009), SOA-Based Enterprise Integration: A Step-by-Step Guide to Services-Based Application Integration, McGraw-Hill Companies

Matakuliah

Digital Creative

Code: IS184949	CREDIT: 3	Elective

Module Name	Digital Creative
Module level	Undergraduate
Code	IS184949
Semester	Fall & Spring (gasal & Genap)
Contact Person	Ir. Achmad Holil Noor Ali, M.Kom.
Lecturer	Ir. Achmad Holil Noor Ali, M.Kom.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, Elective, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students Cognitive 50% Team Based 20% Case Method 20%
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Private study: 3 x 60 = 180 minutes (3 hours) per week. 3. Assignment: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	• Have intrapersonal and interpersonal skills • Produce works, scientific works & IT entrepreneurship that are able to provide actual solutions to problems • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics • Able and willing to internalize entrepreneurial spirit that suitable with the expertise in the current era
Content	Many do not imagine that established traditional businesses will be replaced by digital businesses. The development of the digital business is so fast, it is expanding to meet the needs of all sectors of human life. This course will challenge students to have ideas and innovate to make digital products that can answer the needs of some people. For this reason, the material to be studied in this course includes audience introduction, brand strategy, process & conceptualizing ideas, elements of digital products, changing the environment with product design, designing product contents, creating & spreading messages. The learning method for this course uses inquiry, contextual, problem solving, and projects with learning activities in the form of discussions, problem-solving, guest lectures, and exhibitions. At the end of the lesson, students are expected to have a digital product innovation portfolio that is needed by the community.
Study and examination requirements and forms of examination	• In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination

	• Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom, Microsoft Teams).
Reading list	28. Adam Harrell, Creative Direction in a Digital World: A Guide to Being a Modern Creative Director, CRC Press 2017 29. Paul Wyatt, The Digital Creative's Survival Guide: Everything You Need for a Successful Career in Web, App, Multimedia and Broadcast Design, 2013

Matakuliah

Digital Brand Management

Code: IS184951	CREDIT: 3	Elective

Course Description

With the rapid advancement of Information and Communication Technology, internet adoption has increased sharply and has now become an integral part of life. Social media based on images, audio, and video not only revolutionizes the way individuals interact but also revolutionizes the business environment in various parts of the world. It cannot be denied that digital media is a real challenge for all types of organizations to be able to win competitions in the millennial era. This course aims to provide students with an understanding of digital media and digital branding, their perspectives, and tools and strategies for companies to succeed in the digital era. For this reason, the learning method used is the discussion, case resolution, observation, and practice which is done independently or in groups. This course material focuses on the concepts, tools, strategies, and measurements of digital branding media. It is hoped that an understanding of the digital world and branding will be a provision for students to succeed in their future careers, both as entrepreneurs and as an integral part of a company.

Program Learning Outcomes

- Have intrapersonal and interpersonal skills
- Producing works, scientific works & IT entrepreneurship that are able to provide actual solutions to problems
- Have knowledge in business and IT
- Apply expertise to the nation and country with integrity and ethics
- Able and willing to internalize entrepreneurial spirit that suitable with the expertise in the current era

Course Learning Outcomes

General Skills :
- Able to apply logical, critical, systematic, & innovative thinking in the context of developing or implementing science & technology that pays attention to & applies humanities values in accordance with their field of expertise;
- Able to show independent, quality & measurable performance;
- Able to study the implications of the development or implementation of science technology that pays attention to & applies humanities values according to their expertise based on scientific principles, procedures & ethics to produce solutions, ideas, designs, or art criticism;
- Able to make decisions appropriately in the context of problem solving in their area of expertise, based on the results of information & data analysis;
- Able to develop themselves & compete at national and international levels;
- Able to implement the principles of sustainability (sustainability) in developing knowledge;
- Able to implement information & communication technology in the context of the implementation of their work;
- Able to apply entrepreneurship & understand technology-based entrepreneurship.
- Creating works, scientific work & / or IT entrepreneurship that provides design solutions to actual problems

Knowledge :
- Have knowledge of current & future business environment (including management, organization, functions, business processes)

Attitude :
- Have knowledge of current & future IT environment (including processes, organizations, applications, infrastructure, IT people, data)
- Contributing to improving the quality of life in society, nation, state, and advancement of civilization based on Pancasila;
- Acting as citizens who are proud and love the country, have nationalism and a sense of responsibility to the state and nation;
- Respect the diversity of cultures, views, religions, and beliefs, as well as the original opinions or findings of others
- Cooperate and have social sensitivity and concern for the community and the environment;
- Internalizing academic values, norms, and ethics;
- Demonstrate an attitude of responsibility for work in their field of expertise independently
- Internalizing the spirit of independence, struggle, and entrepreneurship;
- Try your best to achieve perfect results;
- Working together to be able to make the most of their potential

Specific Learning Outcome

Cognitif :
- Students can understand the concept of digital branding and its perspectives
- Students can understand various types of digital toolkits
- Students can understand digital branding strategies and measurements
- Students can understand digital branding measurement

Psikomotor :
- Students can plan digital branding for various cases
- Students can operate various digital toolkits
- Students can execute digital branding strategies according to the relevant toolkit
- Students can measure the achievement of digital branding execution

Afektif :
- Students are willing and able to behave honestly
- Students are willing and able to behave communicatively
- Students are willing and able to behave responsibly
- Students are willing and able to comply with applicable rules and regulations

Course Materials

- Point of view in digital branding: What does digital branding mean? Focus on values, remember user habits, purpose, and validity;
- Branding Toolkit: Social media, search, mobile, online advertising, email marketing, auto marketing, Transmedia campaigns;
- Digital branding strategy & measurement: digital branding measurement, the main indicator of branding, the role of analysis, bridging differences

Main References

1. Daniel Rowles, Digital Branding: A Complete Step-by-Step Guide to Strategy, Tactics and Measurement, CPI Group, 2017
2. Ahava Leibtag, The Digital Crown: Winning at Content on the Web, Elsevier, 2014
3. Ian Cocoran, The Art of Digital Branding, 2007

Additional References

1. Robert Jones, Branding: A Very Short Introduction (Very Short Introductions), Oxford University Press 2017

Course name
INDONESIAN

Code: UG184912	Credit : 2	Semester: 1

Module Name	Indonesian
Module level	Undergraduate
Code	UG184912
Semester	Fall (gasal)
Contact Person	Eka Dian Savitri, S.Hum., M.A.
Lecturer	ITS Indonesian Lecturer Team
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 7th semester
Type of teaching, contact hours	Lectures, <60 students, Cognitive Methode (100%), "Team Based Project (0%) Case Methode(0%)
Workload	1. Lectures : 2 x 50 = 100 minutes per week. 2. Exercises and Assignments : 2 x 60 = 120 minutes (2 hours) per week. 3. Private learning : 2 x 60 = 120 minutes (2 hours) per week..
Credit points	2 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Learning outcomes and their corresponding PLOs	S8) Internalizing academic values, norms and ethics (KU9) Documenting, storing, securing, and recovering data to ensure validity and prevent plagiarism. (KU1) Able to apply logical, critical, systematic, and innovative thinking in the context of developing or implementing science and technology that pays attention to and applies humanities values in accordance with their field of expertise.

Content	he Indonesian language course is one of the general / national compulsory courses. Students will explore lecture materials including: (a) academic ethics; (b) referencing techniques; (c) the systematics of KTI and the formulation of Indonesian used in KTI by taking into account the rules of grammar, PUEBI, and KBBI; (d) structuring KTI logically, critically, systematically, and innovatively by using good and correct Indonesian; (e) effective presentation techniques. The material studied is useful in compiling scientific papers in the form of lecture assignments, research reports, and scientific papers that are competend
Study and examination requirements and forms of examination	• In-class exercises (20%) • Assignment 1, 2, 3 (25%) • Mid-term examination (25%) • Final examination (30%
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom.
Reading list	Main: 1. Alwi, Hasan, 2007, Tata Bahasa Baku Bahasa Indonesia, Edisi Ketiga, Balai Pustaka: Jakarta. 2. Dirjen Pembelajaran dan Kemahasiswaan Kemenristekdikti, Bahasa Indonesia untuk Perguruan Tinggi, 2016, Jakarta, Dirjen Belmawa. 3. Kamus Besar Bahasa Indonesia (daring atau luring), Kemdikbud RI, https://kbbi.kemdikbud.go.id/ 4. Pedoman Umum Ejaan Bahasa Indonesia (PUEBI), 2016, http://badanbahasa.kemdikbud.go.id/lamanbahasa/sites/default/files/PUEBI.pdf Supporting: 1. Pratapa, Suminar, 2018, Etika ilmiah, Hak cipta, dan Plagiarisme. 2. Rosmawaty, 2017, Menulis Karya Ilmiah, 2017. 3. The Structure, Format, Content, and Style of a Journal-Style Scientific Paper,

	Bates Collage, http://jrtdd.com/wp-content/uploads/2018/05/Howto-Write-a- Paper-in-Scientific-Journal-Style-and-Format.pdf

Module name	**Physics 2**
Module level	Undergradute
Code	SF184202
Course (if applicable)	Physics 2
Semester	Second Semester (Genap)
Person responsible for the module	ITS Physics Lecturer Team
Lecturer	ITS Physics Lecturer Team
Language	Bahasa Indonesia
Relation to curriculum	Undergradute degree program, **mandatory**, 2nd semester.
Type of teaching, contact hours	Lectures, <60 students, Cognitive (100%), Team Based Project (0%) Case Methode (0%)
Workload	• Lectures : 3 x 50 = 150 minutes per week. • Exercises and Assignments : 2 x 60 = 120 minutes (2 hours) per week. • Private learning : 2 x 60 = 120 minutes (2 hours) per week.
Credit points	3 credit points (sks)
Requirements according to the examination regulations	A student must have attended at least 75% of the lectures to sit in the exams.
Mandatory prerequisites	-

Learning outcomes and their corresponding PLOs	CLO 1 Students understand particles that compose amatter and it's electrical properties, substantial of conductor and dielectric	PLO8, PLO9
	CLO 2 Students understand the strength of an electric field based on Coulomb force and Gauss's law	PLO8, PLO9
	CLO 3 Students are able to understand various forms of electric potential in charged conductors	PLO8, PLO9
	CLO 4 Students understand the capacitance principle of various form of capacitor in capacitor circuits, series, parallel and mixed	PLO8, PLO9
	CLO 5 Able to use magnetic field force formulas for electric currents and moving charges	PLO8, PLO9
	CLO 6 Able to mention the role of magnetization in magnetic material and hysteresis loop.	PLO8, PLO9
	CLO 7 Understand the principle of electromotive force emergences, and current in resistor, capacitor and inductor	PLO8, PLO9

Module name	**Hinduism**	
Module level	Undergraduate	
Code	UG184904	
Course (if applicable)	**Hinduism**	
Semester	Second Semester	
Person responsible for the module	Dra.Ni Wayan Suarmini, M.Sc	
Lecturer	ITS Hinduism Lecturer Team	
Language	Indonesian	
Relation to curriculum	Undergradute degree program, **mandatory**, 2nd semester.	
Type of teaching, contact hours	Lectures, <60 students, Cognitive Methode (40%), Team Based Project(30%) case Methode (30%)	
Workload	• Lectures : 2 x 50 = 100 minutes per week. • Exercises and Assignments : 2 x 60 = 120 minutes (2 hours) perweek. • Private learning : 2 x 60 = 120 minutes (2 hours) per week.	
Credit points	2 credit points (sks)	
Requirements according to the examination regulations	A student must have attended at least 75% of the lectures to sit in the exams.	
Mandatory prerequisites	-	
Learning outcomes and their corresponding PLOs	(S1) Believe in God Almighty and able to show areligious attitude (S.1); (S2) Upholding human values in carrying out duties based on religion, morals and ethics (S.2) (S6) Cooperate and have social sensitivity and concern for society and the environment (S.6) (KU.6) Able to maintain and develop cooperation networks and cooperation results within and outside the institution (KU. 6)	PLO8, PLO9 PLO8, PLO9 PLO8, PLO9 PLO8, PLO9
Content	The Hindu Religious Education course discusses and explores materials with the substance of human relations with Hyang Widdhi (God Almighty) for increased faith and piety (Sraddha and bhakti); human relations with fellow humans in building a humanist civilization; as well as human relations with their environment in creating welfare	

Course Name
CHEMISTRY 1

Code: SK184101	Credits: 3	Semester: 1

Module Name	CHEMISTRY 1
Module level	Undergraduate
Code	SK184101
Semester	First/Second Semester
Contact Person	Zjahra Vianita Nugraheni, S.Si., M.Si.
Lecturer	ITS Chemistry Lecturer Team
Language	Bahasa Indonesia
Relation to curriculum	Undergradute degree program, mandatory, 1st/2nd semester.
Type of teaching, contact hours	Lectures, up to 40 students, Case Methode (20%) **Team Based Project (35%)** **Cognitive Methode (45%)**
Workload	1. Lectures : 3 x 50 = 150 minutes per week. 2. Exercises and Assignments : 2 x 60 = 120 minutes (2 hours) per week. 3. Private learning : 2 x 60 = 120 minutes (2 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
	Course Learning Outcome (CLO) after completing this module: CLO 1 Students are able to use the basic principles of chemistry as a basis for studying science related to chemistry. CLO 2 Students can perform basic chemical calculations
Module objectives/intended learning outcomes	• Implement various alternative IT solutions that are compromised in order to increase organizational performance & competitiveness • Have knowledge in business and IT • Apply expertise to the nation and country with integrity and ethics
Content	This course studies the basic principles of chemistry which are used as the basis for studying the next subject related to chemistry. The materials presented including atomic theory, chemical bonds, stoichiometry, state of matter and phase changes, acid-base theorem, ionic equilibrium in solution, chemical thermodynamics, chemical kinetics and electrochemistry.
Study and examination requirements and forms of examination	● In-class exercises (20%) ● Assignment 1, 2, 3 (25%) ● Mid-term examination (25%) ● Final examination (30%
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	Main :

	1. Tim Dosen Departemen Kimia, (2019). “Kimia 1”, edisi kedua, Media Bersaudara, Surabaya. Supporting : 1. Oxtoby, D.W., Gillis, H.P. and Campion, A., (2012). ”Principles of Modern Chemistry”, 7th Edition, Brooks/Cole. 2. Chang, R. and Goldsby, K., (2012). “Chemistry”, 11th Edition, McGraw-Hill, USA. 3. Goldberg, D. E., (2007). “Fundamental of Chemistry”, 4th Edition, McGraw-Hill Companies

Course Name
PANCASILA

Code: UG184911 | Credits: 2 | Semester: 1

Module Name	Pancasila
Module level	Undergraduate
Code	UG184911
Semester	Fall (gasal)
Contact Person	Banu Prasetyo, S.Fil, M.Phil.
Lecturer	Banu Prasetyo, S.Fil, M.Phil.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, mandatory, 7th semester
Type of teaching, contact hours	Lectures, up to 40 students, Cognitive Methode (45%) Team Based Project (20%) Case Methode(35%)
Workload	1. Lectures: 2 x 50 = 100 minutes (1 hour 40 min) per week. 2. Private study: 2 x 60 = 120 minutes (2 hours) per week.
Credit points	2 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Module objectives/intended learning outcomes	
Content	1. Participating in the nation's development as Indonesia citizens who possess a sense of patriotism, high responsibility to the nation and develop a sense of pride and belonging 2. Respecting and appreciating cultural, beliefs, religions, ideas and innovation diversities 3. Obeying law orders and performing disciplinary behavior within social and national lif
Study and examination requirements and forms of examination	• Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (itsdaring.id; google classroom; ITS classroom).
Reading list	1. Bahar, Saafroedin (ed). 1992. Risalah Sidang Badan Penyelidik Usaha-Usaha Persiapan Kemerdekaan Indonesia (BPUPKI): Panitia Persiapan Kemerdekaan Indonesia (PPKI) 29 Mei – 19 Agustus 1945. Jakarta: Sekretariat Negara Republik Indonesia. 2. Bertens, Kees. 2004. Etika. Jakarta: Gramedia. 3. Friedman, Thomas. 2006. The World is Flat: Sejarah Ringkas Abad ke 21. Jakarta: Dian Rakyat 4. Kattsof, Louis O. 1992. Pengantar Filsafat. Yogyakarta: Tiara Wacana.

	5. Latif, Yudi. 2011. Negara Paripurna, Jakarta: PT. Gramedia Pustaka Utama. 6. Latif, Yudi. 2018. Wawasan Pancasila: Bintang Penuntun Untuk Pembudayaan. Jakarta: Mizan. 7. Magnis-Suseno, Franz. 2006. Etika Politik: Prinsip-prinsip Moral Dasar Kenegaraan Modern. Jakarta: Penerbit Gramedia Pustaka Utama. 8. Schwab, Klaus. 2016. The Fourth Industrial Revolution. New York: Crown Business. 9. Sukarno. 2001. Tjamkan Pancasila Dasar Falsafah Negara. Jakarta: Panitia Nasional Peringatan Lahirnya Pancasila 1 Juni 1945 – 1 Juni 1964. 10. Soedarso. 2014. Filsafat Pancasila Identitas Indonesia. Surabaya: Pustaka Radja