KANTOR PENJAMINAN MUTU
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REPORT

LECTURER LEARNING INDEXS (IPD)

ODD SEMESTER 2022/2023

- **FSCIENTICS (Faculty of Science and Data Analytics),**
- **FINDSYS (Faculty of Industrial Technology and Systems Engineering),**
- **FMARTECH (Faculty of Marine Technology)**

QUALITY ASSURANCE OFFICE

INSTITUT TEKNOLOGI SEPULUH NOPEMBER

2023

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PREFACE

Quality assurance of higher education at ITS is the process of determining and fulfilling quality standards for higher education management consistently and continuously, so that stakeholders, namely: students, parents, the world of work, government, lecturers, support staff, and interested parties get satisfaction.

Academic quality assurance at ITS, refers to the criteria used in the National Higher Education Standards (SN Dikti) and BAN PT criteria. Learning process standards in SN Dikti are minimum criteria regarding the implementation of learning in study programs to obtain graduate learning outcomes. Learning process standards include: learning process characteristics; learning process planning; learning process implementation; and student learning load. Evaluation of the implementation of the learning process is carried out using an instrument called the Lecturer Learning Index (IPD) which has been carried out since 1998, taking into account changes in terms that apply nationally, in the learning process.

The IPD instrument is divided into 2 groups, namely IPD Courses, and IPD Lecturers.

IPD data is an average of Course IPD and Lecturer IPD, obtained from http://akademik3.its.ac.id/ipd_laporanjurusan.php. This 2022/2023 Odd semester IPD report is the result of monitoring the learning process at ITS for the 2022/2023 Odd Semester. Hopefully this report book is useful for all parties. Suggestions and improvements are still needed for the perfection of this report.

Surabaya, 10 January 2023

Quality Assurance Office

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Accreditation is an External Quality Assurance System as part of the Higher Education Quality Assurance System[1].

Assessment is one or more processes of identifying, collecting, and preparing data used to evaluate the achievement of student outcomes and educational program objectives**.**

The National Accreditation Board for Higher Education, hereinafter abbreviated as BAN PT, is a body established by the government to independently conduct and develop higher education accreditation.

The Learning Outcomes of Study Program Graduates, hereinafter abbreviated as CPL Prodi, are the abilities of graduates which include attitudes, knowledge, and skills.

Lecturers are professional educators and scientists with the main task of transforming, developing, and disseminating science and technology through education, research, and community service.

Department is an element of the Faculty that supports the implementation of academic activities in one or several branches of science and technology in academic education, vocational education, and/or professional education.

Faculty is a set of supporting resources that organize and manage academic education, professional education, and/or vocational education in one family of scientific and technological disciplines.

Quality Assurance Office, is one of the units in ITS that has the task of monitoring, evaluating and reporting to the leadership about the quality of education in ITS.

The Indonesian National Qualifications Framework, hereinafter abbreviated as KKNI, is a competency qualification framework that can juxtapose, equalize, and integrate the fields of education and the fields of vocational training and work experience in order to recognize work competencies in accordance with the structure of work in various sectors.

Monitoring is the observation of a process or an activity with the intention of knowing whether the process or activity is running in accordance with what is required in the contents of the standard / requirements.

Study Program, hereinafter abbreviated as Prodi, is a unit of educational and learning activities that has a certain curriculum and learning methods in one type of academic education, vocational education, and/or professional education.

Learning is the process of student interaction with lecturers and learning resources in a learning environment.

The Higher Education Database, hereinafter abbreviated as PDPT, is a collection of data on the implementation of higher education throughout universities that is integrated nationally.

Higher Education is the level of education after secondary education which includes diploma programs (D3), Applied bachelor program (D4), bachelor programs (S1), master programs (S3), doctoral programs (S3), and professional programs, as well as specialist programs, organized by universities based on the culture of the Indonesian nation.

Legal Entity State University, hereinafter abbreviated as PTNBH, is a State University established by the Government which has the status of an autonomous legal subject.

National Education Standards are minimum criteria regarding learning at the higher education level in tertiary institutions throughout the jurisdiction of the Unitary State of the Republic of Indonesia.

Higher Education Standards, hereinafter abbreviated as SPT, is a standard unit consisting of the National Higher Education Standards (SNPT) and ITS Internal Quality Standards (SMI) which refer to SNPT.

National Research Standards are minimum criteria regarding the research system in higher education that applies throughout the jurisdiction of the Unitary Republic of Indonesia.

National Community Service Standards are minimum criteria regarding the community service system in higher education that applies throughout the jurisdiction of the Unitary State of the Republic of Indonesia.

Statuta ITS, is the basic budget in the implementation of the tridharma of higher education as a guideline for planning, developing, and organizing programs and activities in accordance with the vision and mission of ITS.

Tridharma of Higher Education is the obligation of Higher Education to organize Education, research, and community service.

CHAPTER 1.
INTRODUCTION

1.1 Vision, Mission, Goals of ITS

The vision, mission, and objectives of ITS are contained in the Statute of ITS Government Regulation No. 54/2015, as follows:[2]

The Vision:

The Vision of ITS is to become a university with an international reputation in science and technology, especially those that support environmentally sound industry and marine affairs.

The Mission:

The mission of ITS is to contribute to the development of science and technology for the welfare of society through education, research, community service, and management activities based on information and communication technology.

ITS Vision in education:

a. organizing higher education based on information and communication technology with international quality curriculum, lecturers, and learning methods;
b. producing graduates who are faithful and devoted to God Almighty and have noble morals and character; and
c. equip graduates with technology-based entrepreneurial knowledge.

ITS Mission in research:

play an active role in the development of science and technology, especially in the fields of marine, environment and settlements, energy, and information and communication technology with an environmental perspective through international quality research activities.

ITS Mission in community services:

utilizing all of its resources to participate in solving problems faced by the community, industry, central government, and local government by promoting information and communication technology facilities.

ITS Mission in management:

a. ITS management is carried out by paying attention to the principles of good governance supported by information and communication technology;
b. creating a conducive atmosphere and providing full support to students, lecturers, education personnel to be able to develop themselves and make maximum contributions to society, industry, science and technology; and
c. developing networks to be able to synergize with other universities, industry, society, central government, and local government in organizing education, research, and community service activities.

ITS Goals

ITS in organizing higher education, has the following objectives:[2]

a. to educate the nation's life, foster, and strengthen a sense of national unity based on values, academic ethics, morals, faith, and piety to God Almighty.;
b. educate, develop students' abilities, and produce graduates who::
    1. of noble character;
    2. excel in science and technology
    3. have a noble and independent personality
    4. professional and ethical
    5. high integrity and responsibility; and
    6. able to develop themselves and compete at the national and international levels.
c. provide high-quality contributions in the development of science and technology for national, regional, and international development needs;
d. developing a networking system with other universities, communities, industries, central government agencies, local government agencies, and other institutions both nationally and internationally based on academic ethics, benefits, and mutual benefits;

e. fostering a conducive academic climate that can foster an appreciative, participatory, and contributive attitude of the Academic Community, as well as upholding academic values and morals in an effort to form a dynamic and harmonious campus community; and

f. realizing ITS as a university that is a source of growth and education in the fields of science and technology in supporting industrialization, as well as environmentally sound marine development.

1.2 SOTK (Organizational Structure and Work Procedures) in ITS

The study program at ITS, in its management, is under the coordination of the Faculty, where there have been changes in the number of Faculties. Since 2017 there have been 10 (ten) Faculties, in accordance with SOTK Perek No 10/2016 then there was a change in SOTK Perek No 24/2019 with only 7 Faculties and when there was another change in SOTK Perek No 11/2021 with 8 Faculties. Each IPD data in the Study Program is used as a reference in evaluating and improving the learning process, in coordination with the relevant faculty.

Table 1.1 Department / Department governance in accordance with the Rector's Regulations

SOTK (Organizational Structure and Work Procedures) ITS	Faculty	Department in the management of the Faculty
Perek No. 11/2021	1. FSCIENTICS (Faculty of Science and Data Analytics)	1 Physics**, *** 2 Chemistry**, *** 3 Biology** 4 Mathematics** 5 Statistics**, *** 6 Actuarial Science 7 Analytical Science and Chemical Instrumentation
	2. FINDSYS (Faculty of Industrial Technology and Systems Engineering)	1 Mechanical Engineering**, *** 2 Chemical Engineering**, *** 3 Engineering Physics**, *** 4 Industrial Engineering**, *** 5 Materials Engineering** 6 Food Engineering
	3. FCIVPLAN (Faculty of Civil, Planning, And Geo Engineering)	1 Civil Engineering**, *** 2 Environmental Engineering**, *** 3 Geomatics Engineering** 4 Geophysical Engineering 5 Architecture**, *** 6 Urban and Regional Planning 7 Architect Professional Education
	4. FCREABIZ (Faculty of Creative Design And Digital Business)	1 Industrial Product Design 2 Interior Design** 3 Visual Communication Design 4 Business Management**

SOTK (Organizational Structure and Work Procedures) ITS	Faculty	Department in the management of the Faculty
		5 Development Studies
	5. FMARTECH (Faculty of Marine Technology)	1 Teknik Perkapalan** 2 Teknik Sistem Perkapalan**, *** 3 Teknik Kelautan**, *** 4 Teknik Transportasi Laut** 5 Teknik Lepas Pantai
	6. FELECTICS (Faculty of Intelligent Electrical and Informatics Technology)	1 Electrical Engineering**, *** 2 Computer Engineering* 3 Biomedical Engineering* 4 Informatics**, *** 5 Information System**,*** 6 Information Technology 7 Telecommunication Engineering 8 Medical technology
	7. FVOCATION	1 Civil Infrastructure Engineering** 2 Industrial Mechanical Engineering 3 Electrical Automation Engineering 4 Industrial Chemical Engineering 5 Instrumentation Engineering 6 Business Statistics
	8. SIMT (School of Interdisciplinary Management and Technology)	1 Technology Management**,***

* Has not met the minimum BAN PT criteria for new study programs
** Running Master Programs
***Running Doctoral Programs

1.3 The Background

Law No. 14/2005 on Teachers and Lecturers article 45 states that:6 "*Lecturers must have academic qualifications, competencies, teaching certificates, be physically and mentally healthy, and meet other qualifications required by the higher education unit in which they serve, and have the ability to realize national education goals.* "This is reaffirmed in Permenristekdikti RI No. 44 of 2015 concerning National Higher Education Standards article 5, that: Lecturers must have academic qualifications and teaching competencies, be physically and mentally healthy, and have the ability to organize education in order to fulfill the learning outcomes of graduates.

Learning activities in higher education must be designed in accordance with established standards. Learning process standards consist of aspects: characteristics, planning, implementation of the learning process and student load. A plan must be well prepared based on an evaluation of the implementation in the previous time (semester), so that the outcomes and impacts of these activities can be measured and compiled in a Semester Learning Plan - RPS.

ITS Academic Senate Regulation No. 2 of 2016 requires that lecturers:

1. Must provide ethical, academic, and professional role models in the implementation of the learning process
2. Must carry out the Tri Dharma of higher education professionally
3. Must organize a student-oriented learning process and effective learning methods and have the necessity to fulfill the learning outcomes of graduates
4. Must uphold professionalism in organizing the learning process and updating learning materials and methods on an ongoing basis.
5. Must carry out a fair, relevant and transparent evaluation of the learning process for each course taught.

The Academic Senate mandates that the learning system must be directed towards the formation of quality human resources who are characterized as innovators, technopreneurs, lifelong learning, independent and critical thinking. One of the learning models that support this direction is Student Center Learning (SCL). SCL is implemented through systems and mechanisms for lecturers and students that support the implementation of an effective learning process, as well as strengthening the competence of lecturers. One indicator of the quality of lecturers who can support an effective learning process is the measurement of lecturer competence expressed in the form of Lecturer Learning Index (IPD).

IPD is an assessment by students of the learning process designed and implemented by lecturers. IPD at ITS has been implemented since several years ago, and has used an online IPD system since 2010. The online IPD system aims to collect IPD data, process and report valid data regarding the design, implementation and evaluation of learning in ITS, and supervision / monitoring can be carried out all the time.

1.4 The Goals

The objectives in preparing this IPD Report are:

- Knowing the statistical descriptive illustration of the average IPD value of the teaching and learning process for the Odd Semester 2022/2023.
- Knowing the percentage of average IPD achievements that are above average.
- Knowing the difference in IPD for each faculty.
- Knowing the differences in IPD for each department in the same faculty.
- Knowing the difference in IPD for each level of education in ITS.

CHAPTER 2.
IPD LINKS TO LEARNING THEORY

In this report, information and concepts about learning are provided, which are expected with several concepts and theories that lead to student-centered learning (SCL) able to provide understanding for the Dean, Head of Department, Head of Study Program and lecturers to use other learning models. It is expected that the use of alternative learning models can have an impact on the assessment of the lecturer's learning process (IPD).

2.1 Conventional Learning Theories

Conventional learning is said to be lecturer-centered learning (teacher center). This learning model is based on inputs: number of course credits, topics / subject matter to be discussed, sequence of subject matter, supported by existing infrastructure facilities. The output-oriented learning model is expressed in the form of: what knowledge will be acquired, what abilities will be achieved, what must be known, what competencies must be possessed by students, etc. The statement can make a basis for how to organize the learning process. This statement can be the basis of how to implement a learning method so that the output can be achieved.

The difference between lecturer-centered and student-centered learning is shown in the description in the following table.

Table 2.1 The difference between Teacher Center and Student Center learning [7]

Domain	Lecturer-centered	Student-centered
Knowledge	Moved by the instructor	Constructed by students
Student Participation	Passive	Active
Lecturer role	Leader/authority	Facilitator / partner in learning
Assessment role	Little test	Many tests
Emphasis	Correct answer	Development of understanding
Assessment Method	Single dimension of test	Multidimensionality of learning products
Academic culture	Individualized and competitive	Collaborative and supportive

The teaching and learning process is a process in which there is interaction between lecturers, students and learning resources. Article 10 of SN Dikti (Permenristekdikti No 44 of 2015) states that: Process standards are minimum criteria for the process of student

interaction with lecturers and learning resources in a learning environment, so that there is development of knowledge, improvement of skills, and attitude formation to fulfill learning outcomes. This statement shows that the learning process is carried out in order to achieve learning outcomes. The output of a learning process from the student's side is "outcomes" while the output from the lecturer's side is the result of "assessment".

Learning that leads to Learning Outcomes can be expressed in the following illustration. Learning Outcomes are the results during the learning process, which can be demonstrated by students after they do learning activities. Figure 2.1 below shows that at the beginning of learning, Learning Objectives must be set by a lecturer. This determination is stated by Indonesian regulations in the higher education standards as one of the stages of the Learning Plan.

Figure 2.1 Learning Outcomes-based learning design [8]

Difference between Learning Objective and Learning Outcome [8], shown in the descriptions in the table below.

Table 2.2 Difference between Learning Objective and Learning Outcome.

Learning Objective	Learning Outcome
Conditions that describe specific instructional objectives that contain verbs that can be observed and measured.	Conditions that describe the abilities of students, about what they know, what they can do, what value they have after learning.

Student Center Learning - SCL was proposed by Hayward in early 1905 and implemented by Dewey in 1956. The learning theory proposed by Piaget in the 1980s is done by self-learning, which is one of the forms of SCL. These characteristics in SCL learning will be measured through the IPD instrument.

2.2 Some Principles of SCL [9], [10], [11]

There are 9 principles in the implementation of SCL learning mentioned in several literatures:

Principle 1: *SCL requires a process of reflection,* which means that lecturers, students and the institution reflect on teaching, learning and infrastructure continuously, which leads to learning outcomes being met and stimulates critical thinking and skill transfer from lecturers to students.

Principle 2: *SCL does not have one right size model,* which means that with different lecturers, different students and different institutions, it is not the same as lecturers, students and institutions elsewhere. Each institution is different in determining the right size of SCL learning.

SCL is a learning approach that requires the support of learning structures that are appropriate to each specific context and teaching and learning models/styles with the right style for students what they should do.

Principle 3: *Students have different learning styles.*

Some students learn by trial and error, others through experimentation. Some students learn by studying literature, but others may want to debate and discuss a particular theory.

Principle 4: *Students have different needs and desires.* Some students have the pleasure of being active in arts and culture, sports or active in organizations. Or it could be that students will have children, psychologically in a state of illness, or in a state of disability, etc.

Principle 5: *Learning center selection in SCL*

Students like different objects of study and this includes a strong reason for the object. Learning is organized in a form that is liberal in terms of learning style, discipline style, etc.

Principle 6: *Students have different background knowledge and experiences.*

Learning requires adaptation to the life and professional experiences of each individual. For example, if students are experimenting with ICT, it is useless to teach them the same thing. The experiment that will teach them the same thing will be useful if it helps them in theory. Personal experience can motivate students, by sharing experiences to illustrate or narrate a learning object.

Principle 7: *Students have the right to control their learning*

Students are given the opportunity to play a role in course design, curriculum and evaluation. Students should be seen as active and interested partners.

Principle 8: *SCL is practicing not telling*

SCL aims to give greater responsibility to students, and allows students to be able to think, process, analyze, synthesize, criticize, apply, solve problems, etc.

Principle 9: *Learning requires collaboration between students and staff.*

Students and staff - education personnel from stakeholders to work together to understand the problems and propose possible solutions for the sustainability of SCL. Cooperation in the classroom between students and stakeholders will provide constructive interaction. Such cooperation will have a positive effect as the two groups consider each other as partners. Partnership is central to the SCL philosophy which sees the place of learning as constructive interaction.

2.3 Differences between SCL and Conventional Learning

The difference between learning models that are said to be traditional or lecturer-centered (Teacher Centered Learning - TCL) and student-centered learning (SCL), is indicated by the following characteristics.[27], [28], [29],[30]

Table 2.3 The difference between conventional (traditional) learning and SCL learning

	TRADITIONAL TEACHING (Teaching Centered Learnning)	→	NEW LEARNING (Student Centered Learning)
1	Transfer of knowledge from lecturers to students	→	Students actively develop knowledge & skills learned
2	Students receive knowledge passively	→	Students are actively involved in managing knowledge
3	More emphasis on material mastery	→	Not focused only on mastering the material, but also developing a learning attitude (life-long learning).
4	Single media	→	Multimedia
5	Main information provider & evaluator lecturer function	→	Lecturer function as motivator, facilitator & evaluator

2.4 Some SCL Learning Models SCL[28]

Some of the SCL learning models that can be adopted are shown in the following tables.

No	Model Pembelajaran *Learning Models*	
1	Small Group Discussion	SGD
2	Role-Play & Simulation	RpS
3	Discovery Learning (DL)	DL
4	Self-Directed Learning (SDL)	SDL
5	Cooperative Learning (CL)	CL
6	Collaborative Learning (CbL)	CbL
7	Contextual Instruction (CI)	CI
8	Project Based Learning	PjBL
9	Problem Based Learning & Inquiry	PBL

Each of the above models is characterized by the lecturer and student activities summarized below.

Small Group Discussion - **SGD**

What students do	*What lecturers do*
• Form groups (5-10) of students. • Select discussion materials. • Present papers and discuss in class.	• Draft discussion materials and discussion rules. • Moderate and review at the end of each student discussion session.

2. Role-play Simulation - RpS

What students do	*What lecturers do*
• Learn and perform an assigned role. • Practicing / trying out various models that have been prepared (with the help of computers, prototypes, etc.).	• Design a situation/activity that is similar to the real thing, which could be; role play, model, computer, etc. • Discuss student performance.

3. Discovery Learning - DL

What students do	*What lecturers do*
• Search, collect and organize existing information to describe knowledge.	• Provide data/methods to explore the knowledge that students will learn. • Check and review student learning outcomes.

4. Self Directed Learning - SDL

What students do	*What lecturers do*
• Planning learning activities, implementing and assessing their own learning experience. • Learning initiatives from students themselves.	• As a facilitator. • Provide direction, guidance & feedback on student learning progress.

5. Cooperative Learning - CL

What students do	*What lecturers do*
• - Discuss & conclude the problems / tasks given by the lecturer in groups	• Design and monitor the student learning process.

	• Prepare cases/problems for students to solve in groups.

6. Collaborative Learning [31],[32] - CL

What students do	*What lecturers do*
• Design the process and form of assessment based on group consensus. • Cooperate with their group members in doing the assignment.	• Designing open ended tasks. • As a facilitator and motivator.

7. Contextual Instruction - CI

What students do	*What lecturers do*
• Conduct field studies / plunge in the real world to learn the suitability of the theory. • Discuss concepts/theories related to real situations.	• Arrange assignments for students to study in the field. • Explain theoretical study materials and relate them to real situations or professional work.

8. Project Based Learning[33], [31],[34] - PBL

What students do	*What lecturers do*
• Work on tasks (in the form of projects) that have been systematically designed. • Perform and be accountable for their work in a forum.	• Conduct mentoring and assessment processes. • As a facilitator and motivator.

9. Problem Based Learning & Inquiry - PBLI

What students do	*What lecturers do*
• Learn by exploring / seeking information (inquiry), and utilizing the information to solve factual problems at hand. • Analyze problem-solving strategies.	• Design learning tasks with various alternative problem-solving methods. • As a facilitator and motivator .

2.5 Student Benefits of SCL

The advantages that will be obtained by students if learning is carried out in SCL, including: [11]

1. Making students part of the academic community
2. Increase motivation to learn
3. Freedom and responsibility in learning
4. Forms responsibility for learning needs

Based on the theory in learning, a person's ability to store knowledge, with various activities, is shown in Figure 2.2 below:

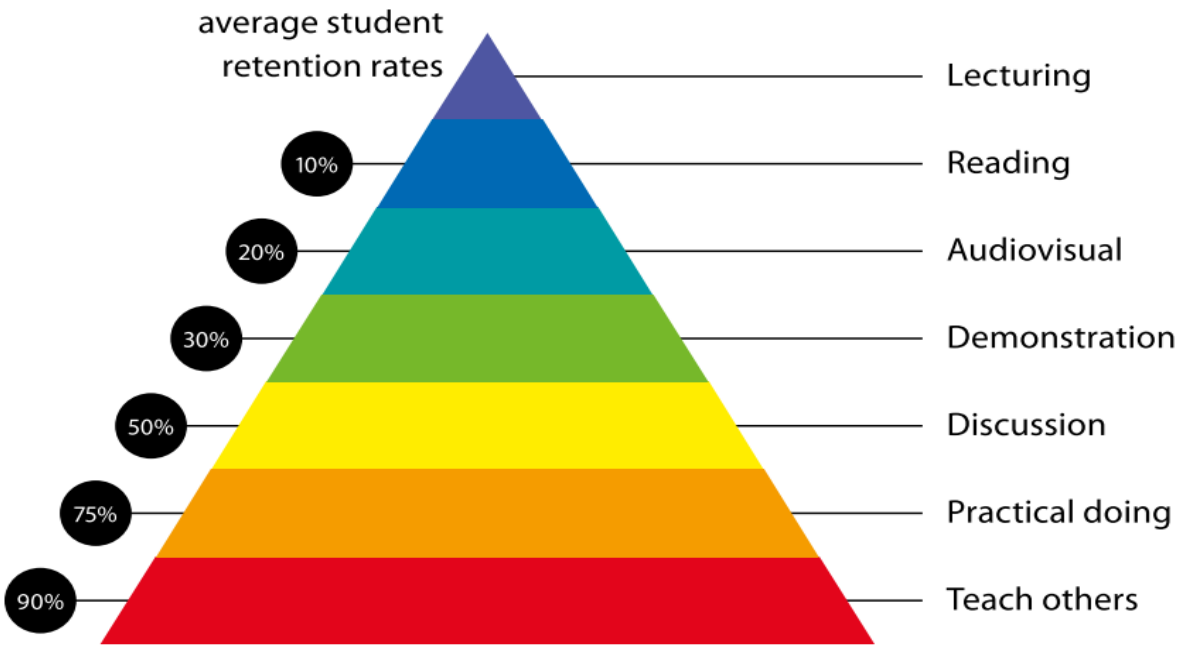

Figure 2.2 The rate of knowledge storage in students' memory in various learning activities [11]

2.5.1 SCL Benefits for Lecturers in SCL Learning

Some benefits for lecturers when implementing SCL learning :

1. A more interesting role.
2. Solution to the problem of student diversity.
3. Positive impact on working situation and conditions.
4. Continuous self-development.
5. Increase student motivation and engagement in learning.
6. Professional development for academics.

2.5.2 The Broader Benefits of SCL

The broader benefits to the institution are:

1. Quality enhancement

   Quality improvement for lecturers and students in their academic experience.

2. Professional status of a lecturer

   With the main task of lecturers is to carry out the tridharma, not only in education, but also required research and abdimas, then a lecturer will be

more professional in carrying out the tridharma if implementing learning with SCL.

3. Improving institutional representation at the University.

   The organizational hierarchy in higher education is flat, unlike in non-academic organizations. All elements in the university will work together in organizing SCL. SCL will also produce more qualified, creative and innovative graduates.

2.6 Assessment for SCL Learning

Assessment is the process of collecting data/information: the results of each individual's ability after undergoing the learning process. [12] Assessment for SCL learning can take many forms, including those shown in table 2.3 below.

Table 2.4 Selection of assessment models on the quality of student-centered learning activities [13]

	Individual	Learning-focused	Motivation	Student self-organization	Informative to various audiences
Formmative					
Self asesmen	●	●	●	●	
Peer asesmen	●	●	●	●	●
Portfolio	●	●	●	●	●
Interim					
Criteria Test		●			●
Summative					
Exhibition	●	●	●	●	●
Test on learning progress		●			●
Diagnostic items		●			●
Large scale test					●

One of the purposes of conducting assessments is that they are for the following purposes [12]:

- Developing learning designs.
- Improve the quality of learning programs in the college.

- Ensure that the outcomes achieved are consistent with the mission of the Study Program.
- Use results from annual assessments and other data to determine program effectiveness.

The benefits of assessing student learning outcomes for students, lecturers and support staff are as follows:

Table 2.5 Benefits of conducting assessments of LOs [12]

Student	Lecturer	Staff
• Explain what students want in their COURSE learning • Inform students that they will be evaluated in a consistent and transparent manner • Reassures students that there is common core content across all courses (skills, attitudes, & knowledge) • Enable students to make better decisions about their program for the next time based on results measured against benchmarks	• Assist lecturers in determining LOs that are successfully achieved or not achieved. • Assist lecturers in efficiently designing the content, instruction and evaluation of the course. • Facilitate discussions between students that provide strong evidence of the truth of a subject discussed • Provide assurance to colleagues (other lecturers) that the content of the MH can be implemented	• Demonstrate Prodi's commitment to continuously improve academic programs and services • Provides valuable data to support funding requests • Demonstrates accountability for funding sources • Provides valuable data for academic planning and decision making • Enable them to inform elected officials, and stake holders about the impact in an interesting and convincing way • Meet requirements for systematic assessment of learning outcomes, for accreditation, etc.

CHAPTER 3.
IPD DATA EVALUATION

Lecturer Teaching Index (IPD) is an assessment of lecturer performance during the learning process in 1 (one) course for 1 (one) semester. IPD is a measuring tool to measure lecturer performance in a learning process. The interaction of lecturers, students, and learning resources in a particular learning atmosphere.

3.1 IPD Data Sources

The data used in this report is digital data at url http://akademik3.its.ac.id/sar3.php. Data berupa:

1. IPD of each course in all Departments;
2. Average IPD of each Department,
3. Average IPD of each level of education D4, S1, S2, S2 Applied and S3 in each Department.

The stages in preparing the IPD Report are:

1. Collect data through downloads on the page http://akademik3.its.ac.id/home.php
2. Describe the data with graphical illustrations.
3. Evaluating the average IPD score.

The questions on the IPD consist of 20 questions which are divided into 2 groups, namely the IPD Lecturer group and the IPD COURSE group. The following are the questions used in calculating the Lecturer Teaching Index.

Table 3.1 Questions / IPD instruments used to measure lecturer performance in the learning process COURSE

Code	Question/Instrument
DO1	The Lecturer helped to improve students ability to achive learning outcomes
DO10	The Lecturer helped student to improve the self confidence through online and / or offline media
DO2	The Lecturer provided the teaching materials in accordance with the subject matter of study in online and / or offline media
DO3	The Teacher gave a motivation to student to learn more independently, with online and / or offline media

Code	Question/Instrument
DO4	The Lecture be able to interact actively to get the most out of learning, through online and / or offline media
DO5	The Lecturer used the time allocation according to credits to interact with students, both online and / or offline
DO6	The Lecturer gave the tests/assignments/other forms of assessment in accordance with the learning objectives (online and/ offline media)
DO7	The Lecturer had a positive perception of students ability to interact with students both online and/ or offline
DO8	The Lecturer gave the assignments related to professional practice after graduation
DO9	The Lecturer gave the assignments to improve ability to work in groups through online and / or offline media

Table 3.2 Questions / IPD instruments used to measure lecturer performance in interaction with students in the learning process COURSE

Code	Question/Instrument
COURSE1	Did the Learning Plan (RP) explained at the beginning of the course?
COURSE10	Did the lecturer make remedies to improve assessment results?
COURSE2	Did the Learning Plan (RP) can be accessed from the Study Program official website?
COURSE3	Did the Task Plan and/or Assessment and Evaluation Plan, submitted in courses and/or can be accessed from website?
COURSE4	Did the Learning outcomes explained at each course change?
COURSE5	Did SCL learning used? students are given wide opportunities in determining independent learning in the lecturer guidance
COURSE6	How much Learning Resources used can support learning outcomes and emphasize important ideas that refer to the RPS?
COURSE7	How much the suitability of time to do on assignments according to course credits?
COURSE8	How much the suitability of other types of tests / examinations / assessments with the fulfillment of learning outcomes?
COURSE9	How much lecturer provided feedback for assessment / other assessment?

The answer to each question in the IPD uses a Likert scale with 4 scales:

Scale	Definition
1	Less than satisfactory
2	Satisfactory
3	Good
4	Excellent

Students in each COURSE will provide an assessment within a time limit not exceeding the lecture / learning process, in 16 (sixteen) weeks.

3.2 ITS average IPD score

The data used in this report is digital data at the address http://akademik3.its.ac.id/sar3.php. IPD data is divided for each Faculty. This IPD score is the average of Lecturer IPD and COURSE IPD, or expressed in the form of the following equation:

$$IPD = \frac{Lecturer\ IPD + Course\ IPD}{2}$$

3.2.1 FSCIENTICS Average IPD

The average IPD for S1, S2, and S3 Departments in FSCIENTICS is shown in Table 3.3 below:

Table 3.3 Average IPD of S1, S2, and S3 Departments in the Faculty of FSCIENTICS, odd semester 2022/2023

FSCIENTICS	IPD			Standard Deviation			MAX			MIN		
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3
PHYSICS	3.62	3.79	2.82	0.17	0.16	1.61	4.00	4.00	4.00	3.13	3.37	0.00
CHEMISTRY	3.62	3.57	2.76	0.13	0.69	1.56	3.97	4.00	4.00	3.26	0.00	0.00
BIOLOGY	3.66	3.89		0.14	0.13		3.90	4.00		3.22	3.72	
MATHEMATICS	3.58	3.59	3.99	0.18	0.33	0.02	3.93	4.00	4.00	3.20	2.67	3.95
STATISTICS	3.61	3.58	3.87	0.15	0.14	0.13	3.91	3.89	3.97	3.20	3.29	3.70

FSCIENTICS	IPD			Standard Deviation			MAX			MIN		
ACTUARIAN SCIENCE	3.55			0.11			3.76			3.21		
ANALYTICAL SCIENCE AND CHEMICAL INSTRUMENTATION	1.77			1.89			3.61			0.00		
Averages	**3.61**	**3.69**	**3.36**									

Table 3.3 shows that the highest average IPD is S2 program and the lowest is S3 program.

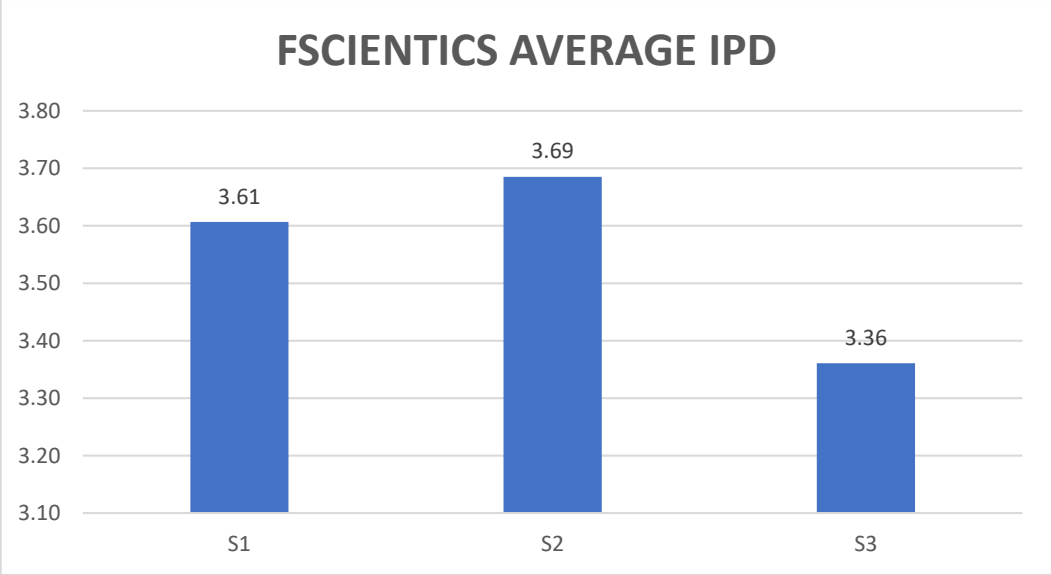

Figure 3.1 Average IPD of Departments in FSCIENTICS, odd semester 2022/2023

3.2.1.1 IPD of FSCIENTICS Bachelor Program (S1)

The average IPD score of the FSCIENTICS bachelor program is 3.61. The lowest IPD is Analytical Science and Chemical Instrumentation and the highest is Biology. A graph of the average IPD score for the FSCIENTICS Undergraduate Program is shown in Figure 3.2.

Table 3.4 Nilai rata-rata dan standar deviasi IPD untuk Departemen di FSCIENTICS

	IPD	ST. DEVIATION	Max	Min
PHYSICS	3.62	0.17	4.00	3.13
CHEMISTRY	3.62	0.13	3.97	3.26
BIOLOGY	3.66	0.14	3.90	3.22
MATHEMATICS	3.58	0.18	3.93	3.20
STATISTICS	3.61	0.15	3.91	3.20
ACTUARIAN SCIENCE	3.55	0.11	3.76	3.21
ANALYTICAL SCIENCE AND CHEMICAL INSTRUMENTATION	1.77	1.89	3.61	0.00

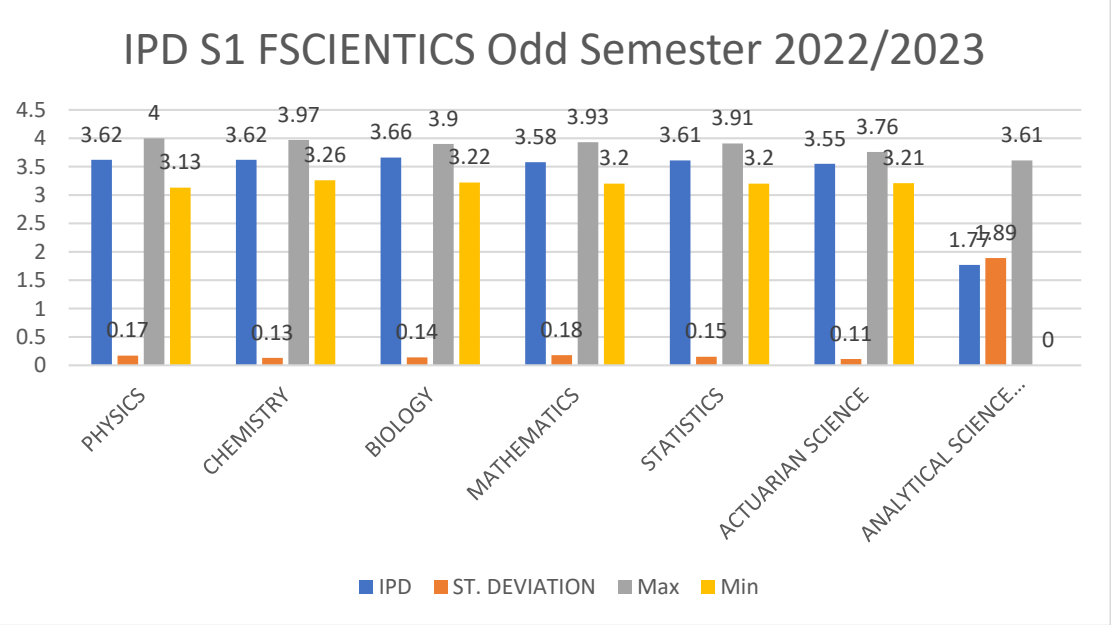

Figure 3.2 IPD Bachelor Program in FSCIENTICS Odd semester 2022/2023

3.2.1.2 IPD of FSCIENTICS Master Program (S2)

The average IPD score for the Master Program is 3.69. Figure 3.3 is a graph of the average IPD score for the FSCIENTICS Master Program. The lowest IPD score is the Statistics Master Program and the highest is the Chemistry Master Program. Departments with IPD below the average are Physics Study Program, Mathematics Study Program and Statistics Study Program.

Table 3.5 The average score and standard deviation of IPD for Departments in FSCIENTICS

FSCIENTICS (S2)	IPD	St. DEVIATION	Max	Min
PHYSICS	3.79	0.16	4.00	3.37
CHEMISTRY	3.57	0.69	4.00	0.00
BIOLOGY	3.89	0.13	4.00	3.72
MATHEMATICS	3.59	0.33	4.00	2.67
STATISTICS	3.58	0.14	3.89	3.29

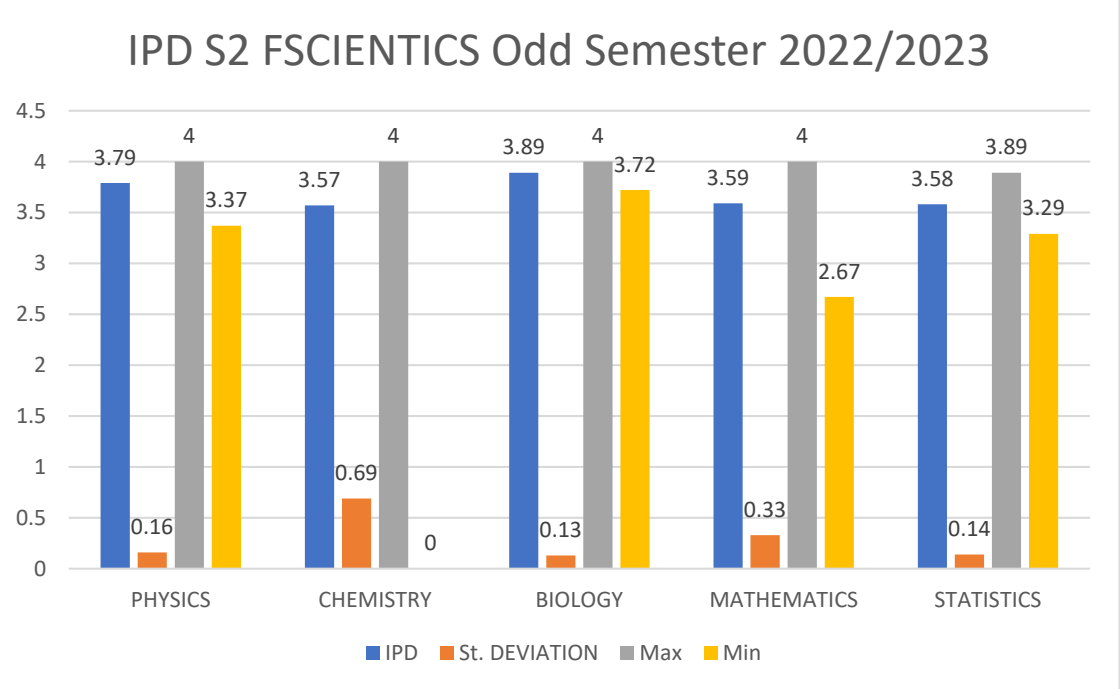

Figure 3.3 IPD Master Program in FSCIENTICS odd Semester 2022/2023

3.2.1.3 IPD of FSCIENTICS Doctoral Program (S3)

Doctoral study programs are offered in the departments of Physics, Chemistry, Mathematics and Statistics. The average IPD score for Doctoral Programs in Departments in FSCIENTICS is 3.79. The lowest IPD is in the Chemistry Department and the highest is in the Physics Department. Figure 3.4 shows the graph of the average IPD score for Doctoral Program in FSCIENTICS.

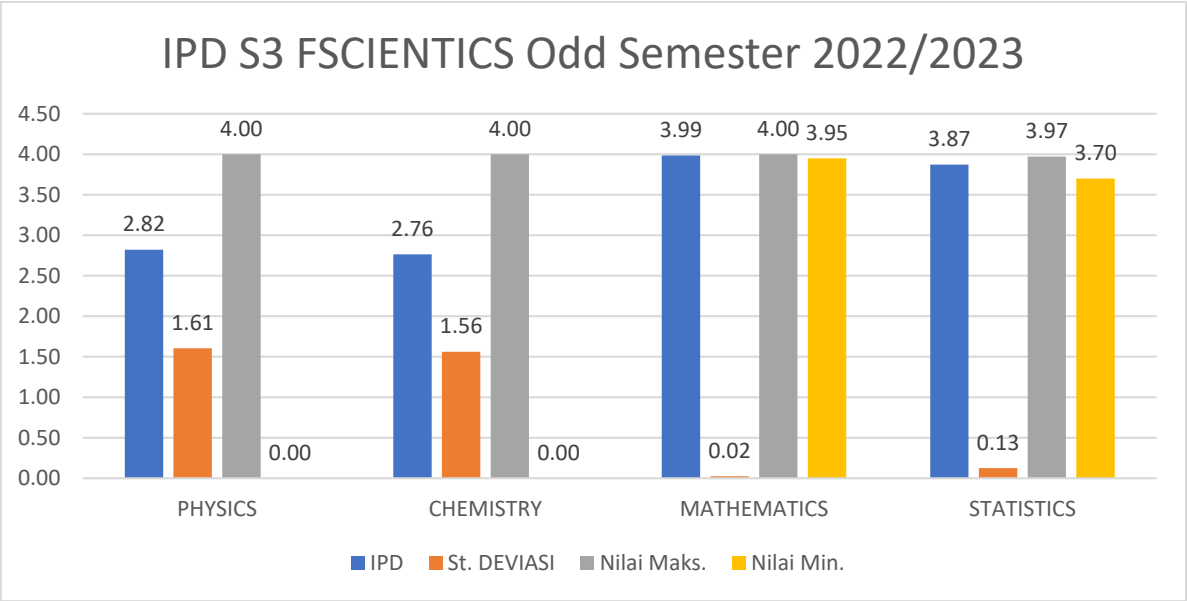

Figure 3.4 IPD Doctoral Program S3 Department at FSCIENTICS

3.2.2 FINDSYS Average IPD

The average IPD of S1, S2 and S3 Departments in FINDSYS ITS, Odd semester 2022/2023, is shown in Table 3.6 below. Table 3.6 shows that the highest average IPD is the S3 program and the lowest is the S2 program.

Table 3.6 Average IPD of S1, S2, and S3 Departments in the Faculty of FINDSYS, odd semester 2022/2023

FINDSYS	**IPD**			**St. DEVIATION**			**MAX**			**MIN**		
	S1	**S2**	**S3**	**S1**	**S2**	**S3**	**S1**	**S2**	**S3**	**S1**	**S2**	**S3**
MECHANICAL ENGINEERING	3.63	3.72	-	0.36	0.15		3.92	3.98		0.00	3.37	
CHEMICAL ENGINEERING	3.71	3.68	3.90	0.15	0.14	0.09	4.00	4.00	3.96	3.27	3.40	3.83
PHYSICAL ENGINEERING	3.39	2.77	4.00	0.37	1.55	0.00	4.00	4.00	4.00	0.00	0.00	3.98
INDUSTRIAL ENGINEERING	3.64	3.11	3.76	0.15	1.38	0.36	3.91	4.00	4.00	3.17	0.00	2.00
MATERIALS ENGINEERING	3.55	3.73	-	0.57	0.15		4.00	4.00		0.00	3.46	
FOOD ENGINEERING	3.58	-	-	0.07			3.67			3.47		
Averages	**3.58**	**3.40**	**3.89**									

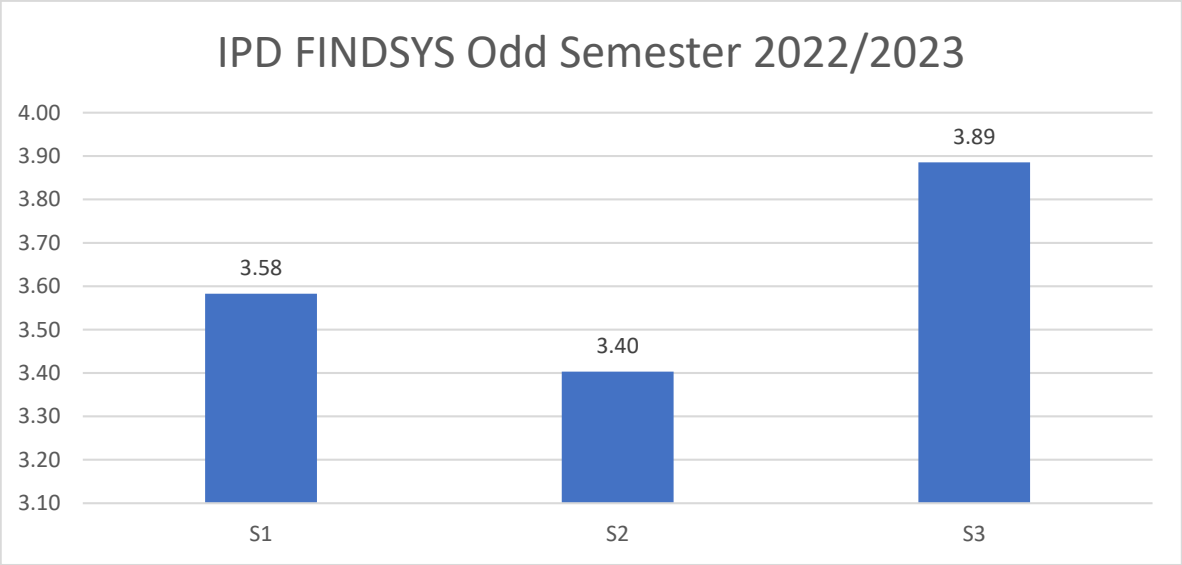

Figure 3.5 Department average IPD in FINDSYS odd semester 2022/2023

3.2.2.1 IPD of FINDSYS Bachelor Program (S1)

The average IPD score of the FINDSYS undergraduate program is 3.58. The lowest IPD is from the Department of Physics Engineering and the highest is the Department of Chemical Engineering. The IPD with a value below the FINDSYS average is the Department of Physics Engineering and Materials Engineering. The graph of the average IPD score for the FINDSYS Undergraduate Program is shown in figure 3.6.

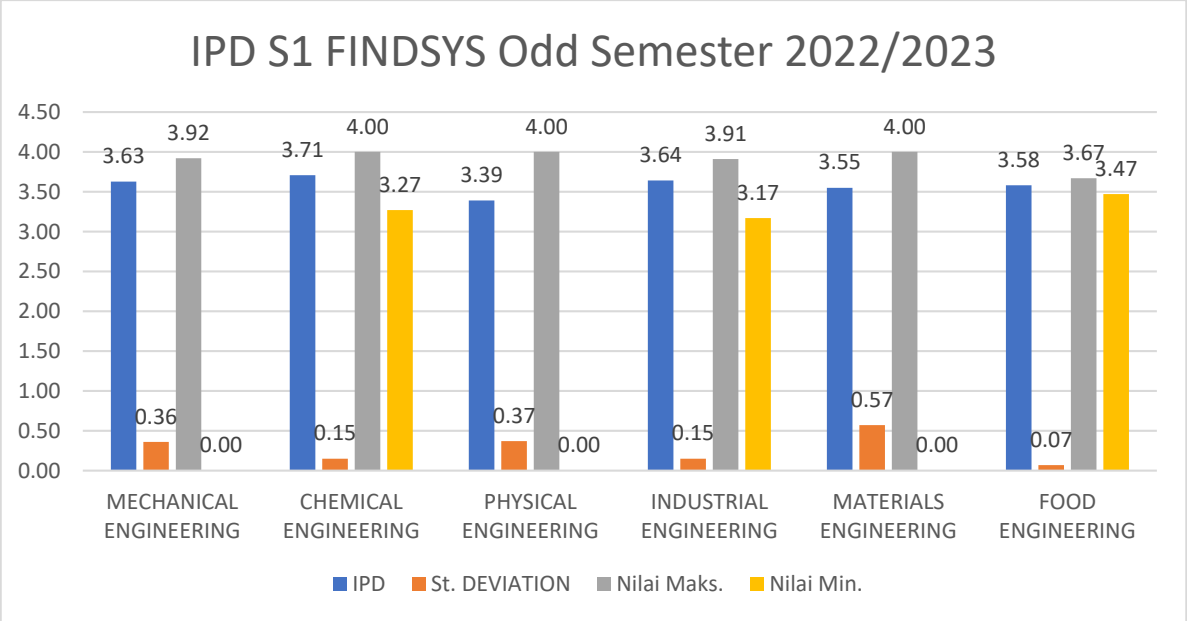

Figure 3.6 IPD Bachelor Program Department at FINDSYS odd Semester 2022/2023

3.2.2.2 IPD of FINDSYS Master Program (S2)

The average IPD score of the Master's Program in the Department at FINDSYS is 3.40. Figure 3.7 shows the graph of the average IPD score for Master Program in FINDSYS.

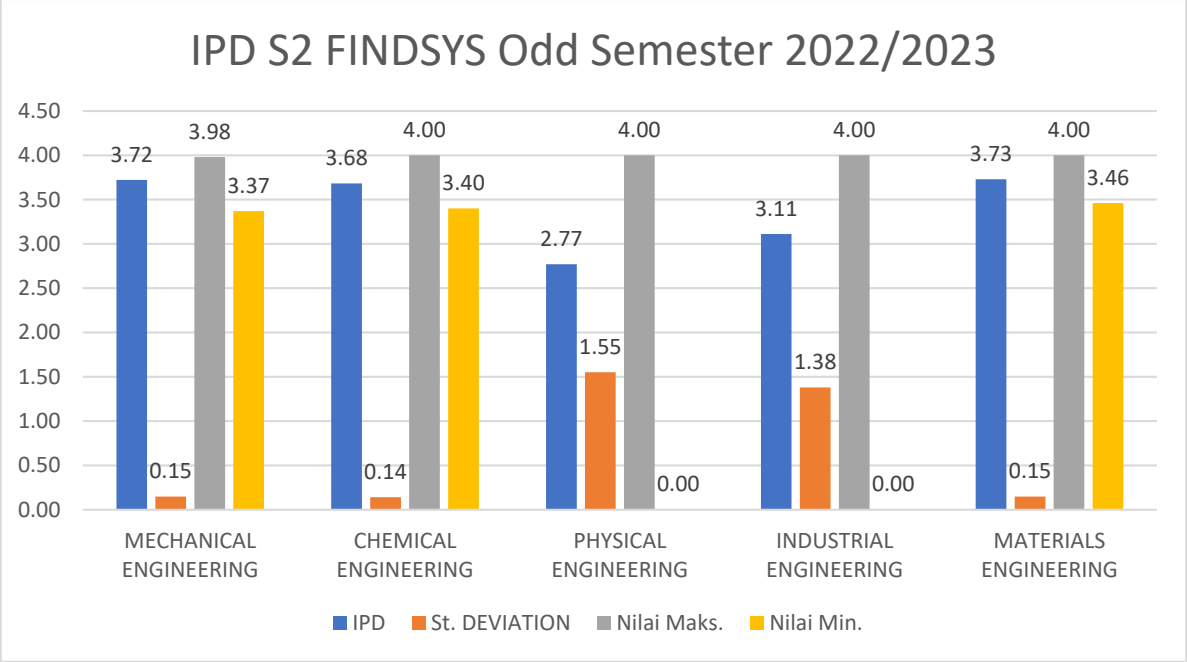

Figure 3.7 IPD Master Program Department at FINDSYS

The lowest IPD of FINDSYS master program is Physics Engineering and the highest is Materials Engineering. The IPD score that is below the FINDSYS average is the Master Program in Physics Engineering and Industrial Engineering.

3.2.2.3 IPD of FINDSYS Doctoral Program (S3)

The average value of the Doctoral Program IPD in the Department at FINDSYS is 3.89. In Figure 3.13 is a graph of the average IPD score for the FINDSYS Doctoral Program. The lowest IPD is the S3 Industrial Engineering Program and the highest is Engineering Physics. For the S3 Mechanical Engineering study program, the value cannot be taken because all COURSEs are dissertations with IPD 0.

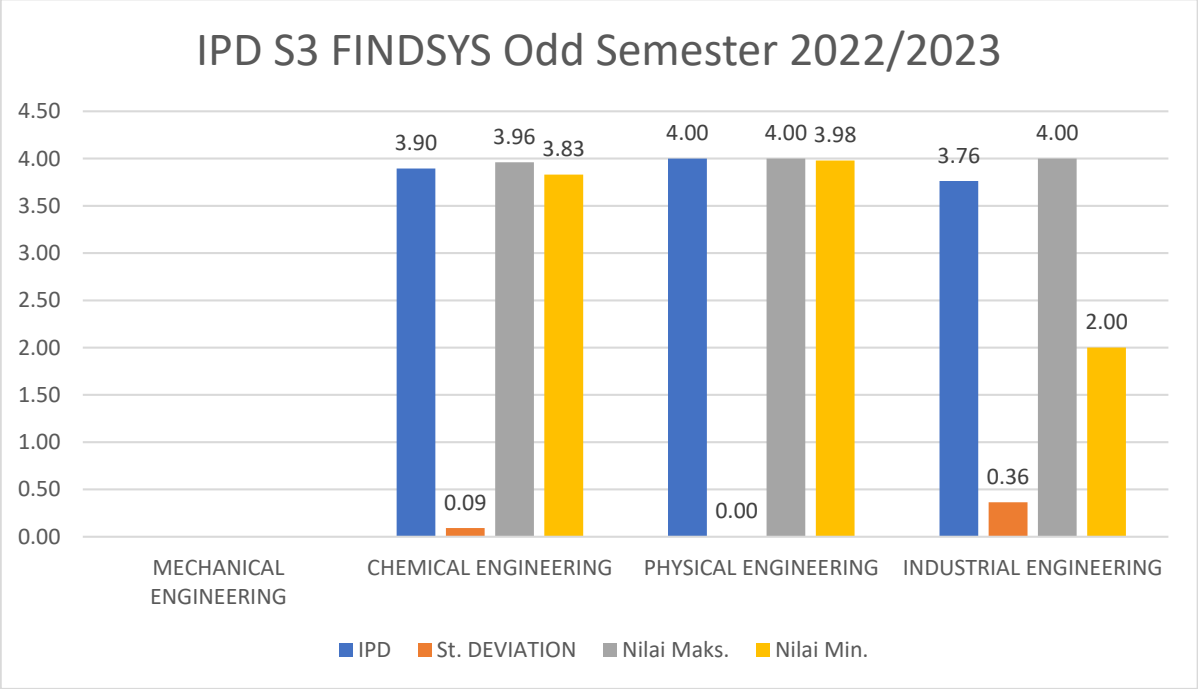

Figure 3.8 IPD Doctoral Program Department at FINDSYS

3.2.3 FMARTECH Average IPD

The average IPD for the S1, S2, and S3 Departments at FMARTECH is shown in Table 3.8 below. The IPD scores of the five Departments are almost the same, but vary in standard deviation values. The highest average IPD score is the Master Program and the lowest is the Doctoral Program.

Table 3.7 Average IPD of the Department of S1. S2. and S3 at the Faculty of FMARTECH odd semester 2022/2023

FMARTECH	IPD			St. DEVIATION			MAX			MIN		
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3
NAVAL ENGINEERING	3.56	3.83	-	0.21	0.24		4.00	4.00		2.71	3.13	
MARINE ENGINEERING	3.55	3.65	2.78	0.38	0.92	1.81	4.00	4.00	4.00	0.00	0.00	0.00
OCEAN ENGINEERING	3.60	3.77	2.23	0.19	0.26	1.89	3.90	4.00	4.00	2.38	3.00	0.00

MARINE TRANSPORTATION ENGINEERING	3.56	3.47	-	0.13	0.03		3.88	3.50		3.29	3.43	
OFFSHORE ENGINEERING	3.71	-	-	0.23			3.91			3.02		
Rata-rata	**3.60**	**3.68**	**2.50**									

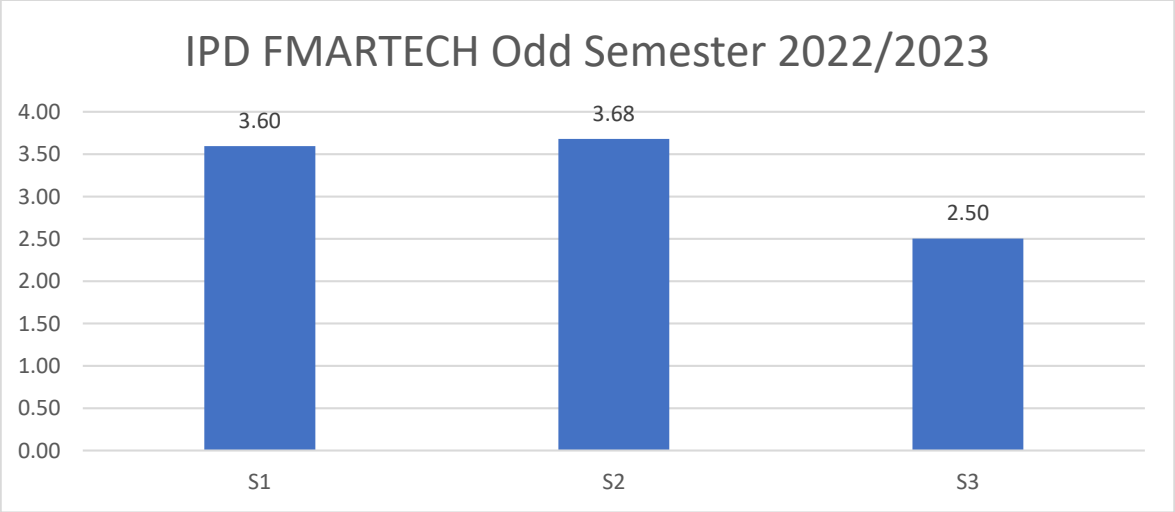

Figure 3.9 Average IPD of Departments in FMARTECH odd semester 2022/2023

3.2.3.1 IPD of FMARTECH Bachelor Program (S1)

The average IPD score for the Bachelor Program in the Department at FMARTECH is 3.60. Figure 3.14 shows the graph of the average IPD score for FMARTECH Bachelor Program.

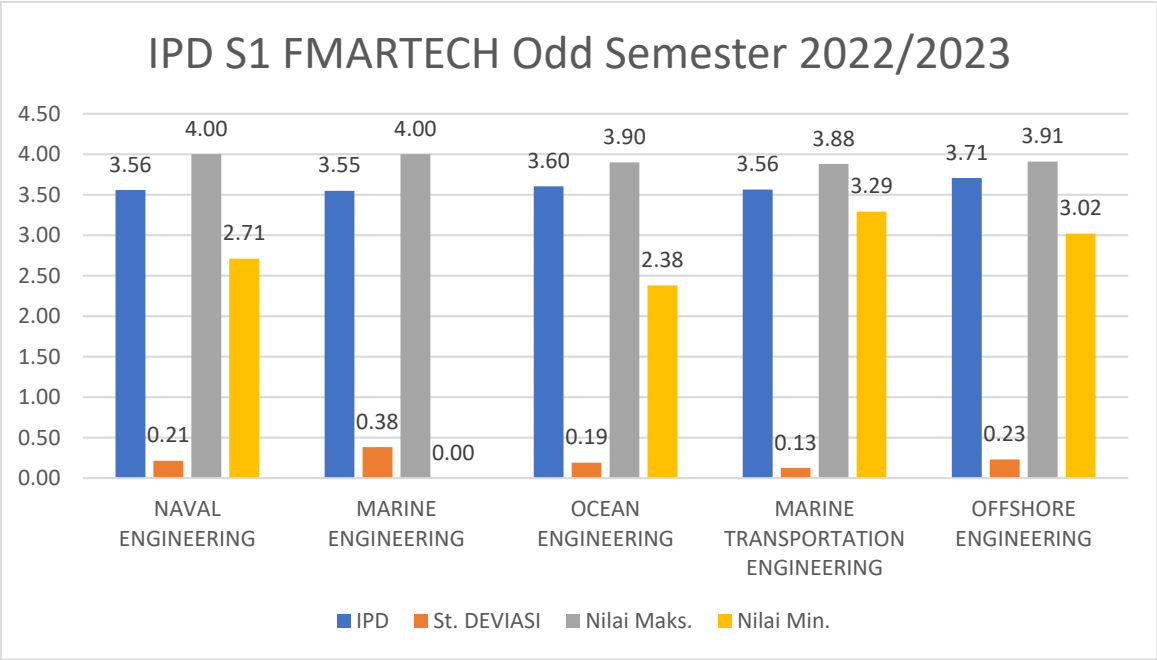

Figure 3.10 IPD Bachelor Program Department at FMARTECH Odd Semester 2022/2023

Figure 3.14 shows the IPD for FMARTECH bachelor programs. The lowest IPD is the bachelor program of Marine Engineering and the highest is Offshore Engineering.

3.2.3.2 IPD of FMARTECH Master Program (S2)

The average IPD score of the Master Program in the Department at FMARTECH is 3.68. Figure 3.25 shows a graph of the average IPD score for the FMARTECH Master's Program. The lowest IPD in the implementation of the Master's program learning process is the Marine Transportation Engineering Department and the highest is Marine Engineering. The IPD scores below the FMARTECH average are the Departments of Marine Engineering and Marine Transportation Engineering.

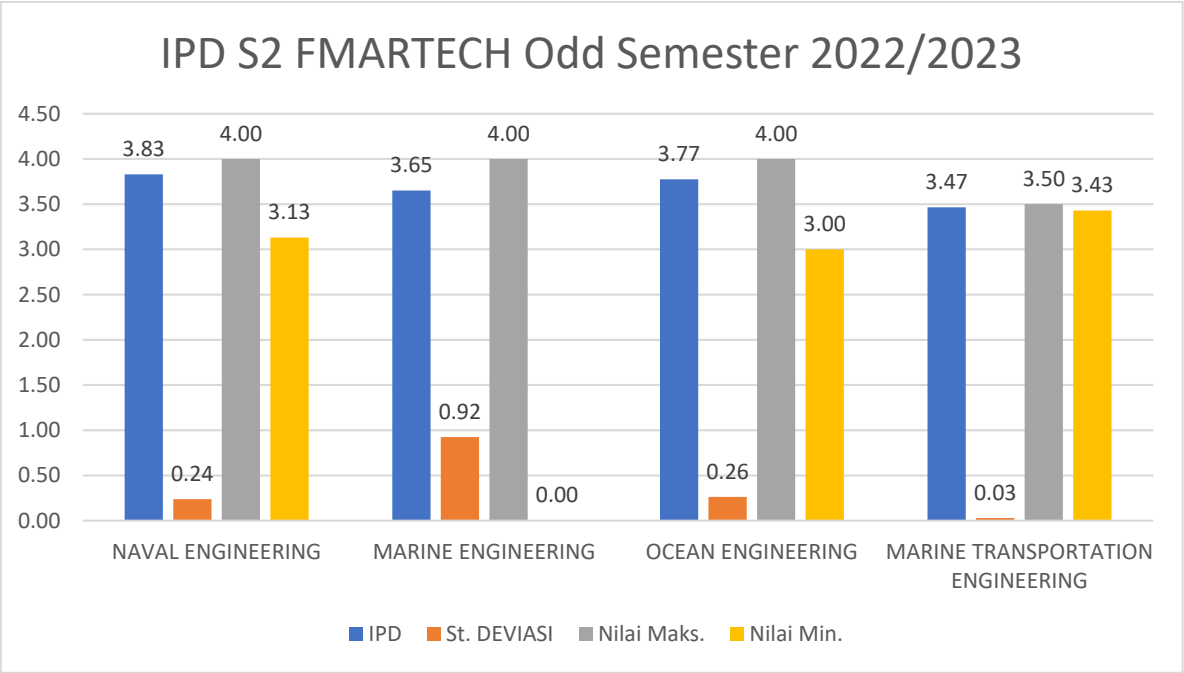

Figure 3.11 IPD Master Program Department at FMARTECH Odd Semester 2022/2023

3.2.3.3 IPD of FMARTECH Doctoral Program (S3)

The average IPD score of the Doctoral Program in the Department in FMARTECH is 2.50. Figure 3.16 shows a graph of the average IPD score for FMARTECH Doctoral Programs.

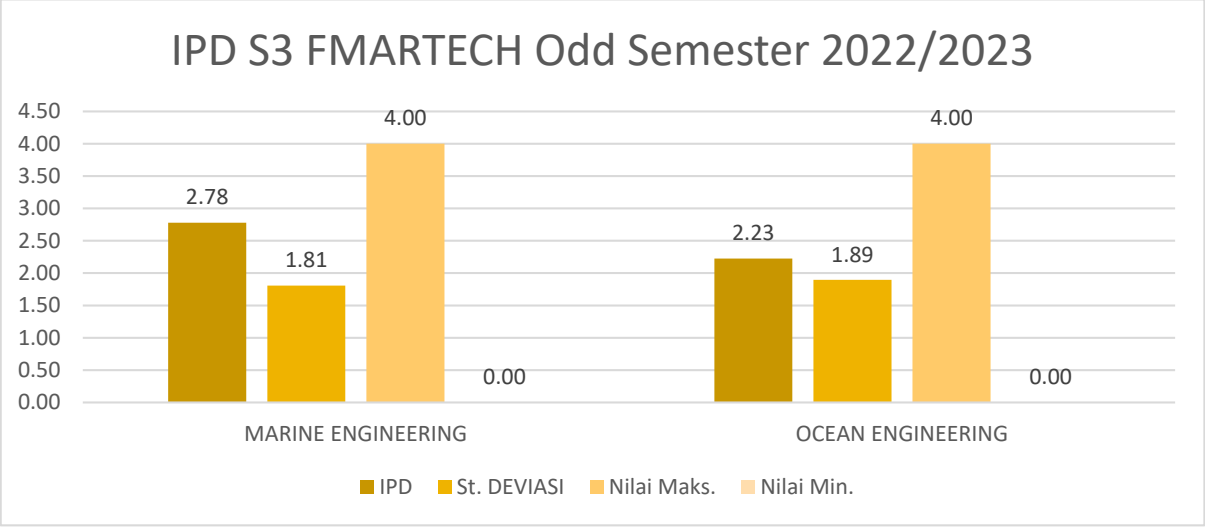

Figure 3.12 IPD Doctoral Program Department in FMARTECH Odd Semester 2022/2023

CHAPTER 4.
EVALUATION FOR IPD SCORE

4.1 IPD Odd Semester 2022/2023

A comparison of the IPD scores for odd semester 2021/2022 and odd semester 2022/2023 is shown in Table 4.1. The average IPS of Odd Semester 2021/2022 with IPD of Odd Semester 2022/2023 has increased.

Table 4.1 ITS IPD Score for Odd Semester 2021/2022 and Odd Semester 2022/2023

	Odd Semester 2021/2022	Odd Semester 2022/2023	Selisih
Bachelor Program (S1)	3.55	3.60	0.05
Master Program (S2)	3.63	3.59	-0.04
Doctoral Program (S3)	2.91	3.25	0.34
Averages	***3.36***	***3.48***	

The difference in IPD Score for Diploma, Bachelor, Master, and Doctoral Programs for Odd Semester 2021/2022 and Odd Semester 2022/2023 is shown in Figure 4.1..

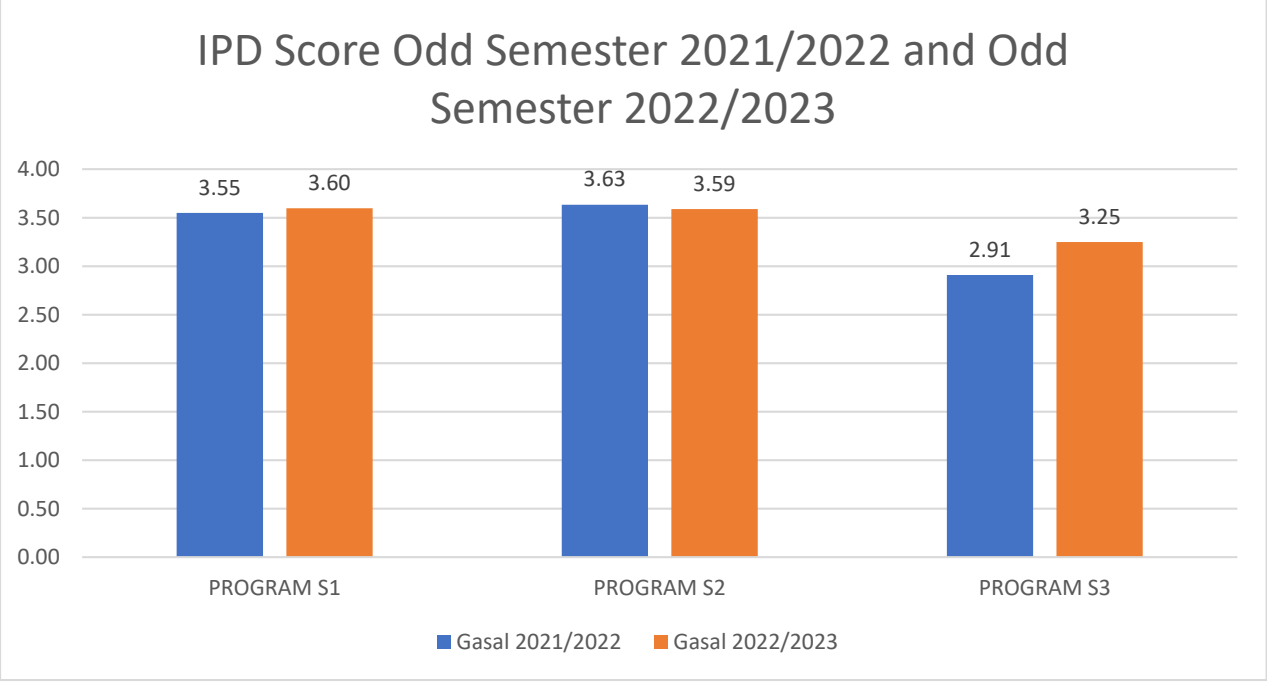

Figure 4.1 ITS IPD Score for Odd Semester 2021/2022 and Odd Semester 2022/2023

4.2 IPD of Faculty

IPD for FSCIENTICS, FINDSYS, FMARTECH programs. shown in table 4.2 below. The increase occurred in the Faculty for FINDSYS and FMARTECH.

Table 4.2 Average IPD Score Faculty

	FSCIENTICS		FINDSYS		FMARTECH	
	2021/ 2022	2022/ 2023	2021/ 2022	2022/ 2023	2021/ 2022	2022/ 2023
Bachelor Program (S1)	**3.54**	**3.61**	**3.54**	**3.58**	**3.57**	**3.60**
Master Program (S2)	**3.60**	**3.69**	**3.55**	**3.40**	**3.75**	**3.68**
Doctoral Program (S3)	**3.79**	**3.36**	**3.18**	**3.89**	**1.76**	**2.50**
Averages	***3.64***	***3.55***	***3.42***	***3.62***	***3.03***	***3.26***

4.3 IPD of Bachelor Program (S1)

The IPD score of the bachelor program for the 3 Faculties in Odd Semester 2021/2022 and Odd Semester 2022/2023 is shown in Table 4.4. and graphically shown in Figure 4.3. It can be seen that there is a significant increase in all Faculties.

Table 4.3 Nilai IPD Program Sarjana di ITS Semester GASAL 2021/2022 dan GASAL 2022/2023

Fakultas	2021/2022	2022/2023	Selisih
FSCIENTICS	3.54	3.61	0.07
FINDSYS	3.54	3.58	0.04
FMARTECH	3.57	3.60	0.03
Rata-rata	***3.55***	***3.60***	

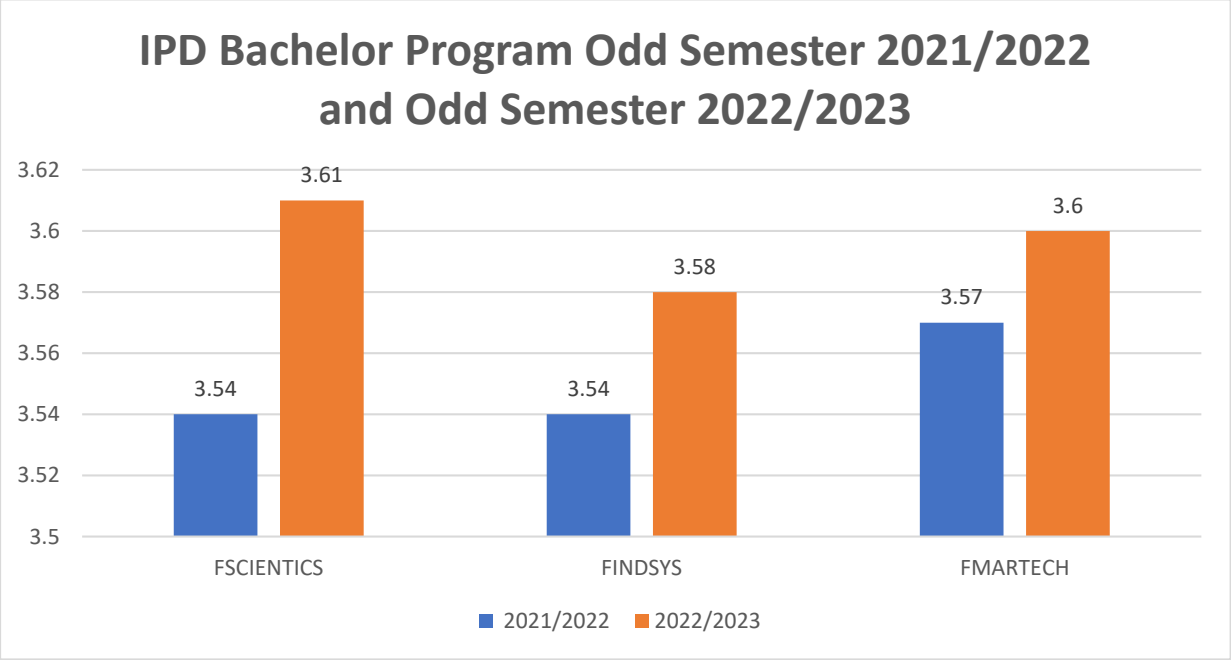

Figure 4.2 IPD Score of Bachelor Programs at ITS Odd Semester 2021/2022 and Odd Semester 2022/2023

4.4 IPD of Master Program (S2)

The IPD of the Master Program for the 2021/2022 Odd Semester and 2022/2023 Odd Semester showed a decrease in average from 3.69 to 3.59. This is due to a decrease in several faculties such as FINDSYS and FMARTECH.

Table 4.4 Nilai IPD Program Magister di ITS Semester GASAL 2021/2022 dan GASAL 2022/2023

Fakultas	2021/2022	2022/2023	Selisih
FSCIENTICS	3.60	3.69	0.09
FINDSYS	3.55	3.40	-0.15
FMARTECH	3.75	3.68	-0.07
Rata-rata	***3.63***	***3.59***	

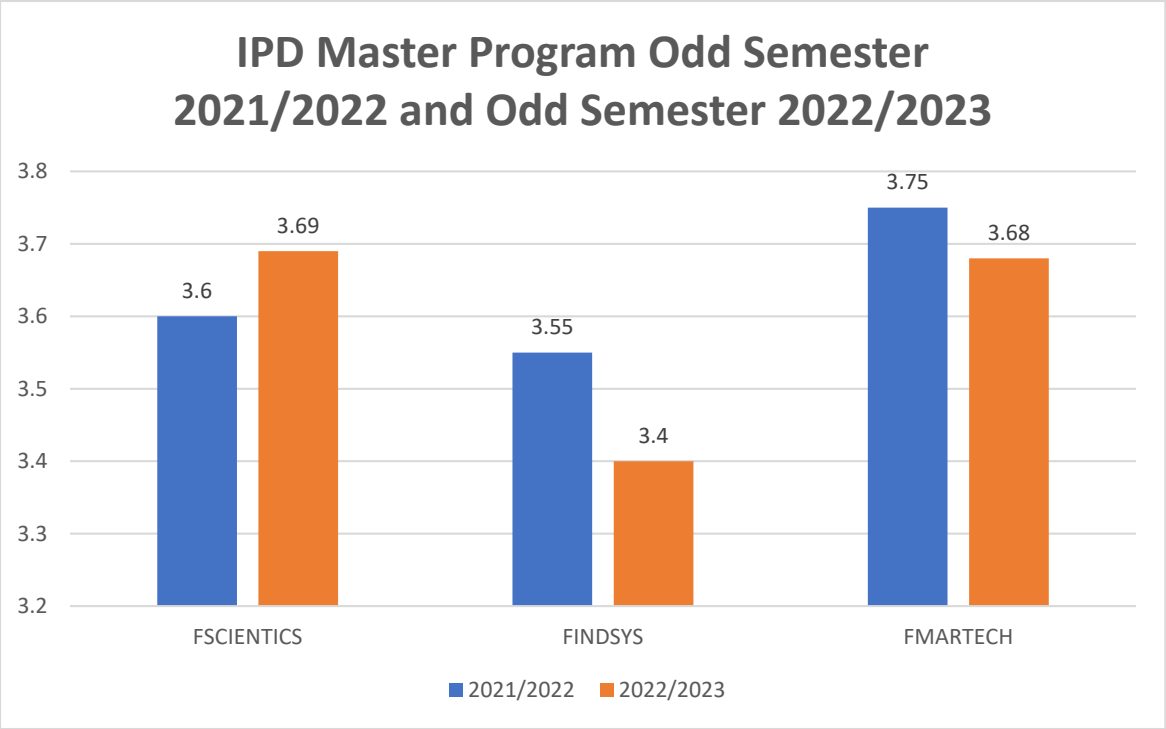

Figure 4.3 IPD Score of Master Program at ITS Odd Semester 2021/2022 and Odd Semester 2022/2023

4.5 IPD od Doctoral Program (S3)

The IPD of the ITS Doctoral Program for Odd Semester 2021/2022 and Odd Semester 2022/2023 shows an average increase compared to the 2021/2022 Odd Semester, this is because there was a significant increase in the Faculty of FINDSYS and FMARTECH. shown in Table 4.6 and Figure 4.5.

Table 4.5 IPD Score of Doctoral Program at ITS Odd Semester 2021/2022 and Odd Semester 2022/2023

	2021/2022	2022/2023	Selisih
FSCIENTICS	3.79	3.36	-0.43
FINDSYS	3.18	3.89	0.71
FMARTECH	1.76	2.50	0.74
Rata-rata	***2.91***	***3.25***	

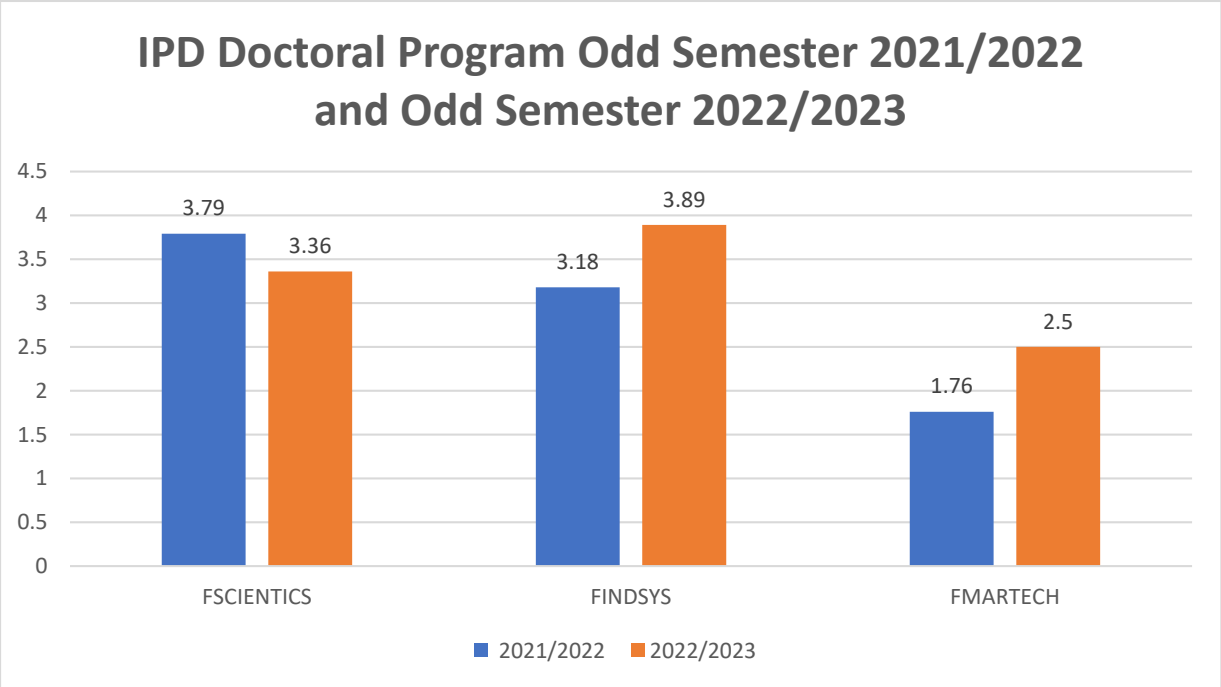

Figure 4.4 IPD Score of Doctoral Program at ITS Odd Semester 2021/2022 and Odd Semester 2022/2023

CHAPTER 5.
CONCLUSION

The performance index of the learning process expressed in the form of IPD for the odd semester 2022/2023, can be concluded as follows:

- There was an increase in the average IPD of 0.11 from the IPD for the Odd Semester 2021/2022.
- Examination of assessment items/IPD assessment instruments using benchmarks on learning theory.
- Each study program should find the root cause of the low IPD achievement.

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