COLLEGE OF COMPUTER AND INFORMATION SCIENCE

Academic Year 2024 – 2025

CS199F (CS PRACTICUM) NARRATIVE REPORT

Submitted by:

GALANG, Robby P.

Submitted to:

Professor Jonalyn G. Ebron

Submitted to the Faculty of Mapúa Malayan Colleges Laguna

In partial fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science

Overview of the Practicum Engagement

Company Background

Figure 1. STMicroelectronics Logo

STMicroelectronics is a leading multinational semiconductor company formed in 1987 through the merger of SGS Microelettronica and Thomson Semiconducteurs. Headquartered in Geneva, Switzerland and incorporated in the Netherlands, ST operates as an Integrated Device Manufacturer (IDM), with 14 major manufacturing sites across 9 countries. One of its key back-end facilities is located in Calamba, Laguna, Philippines, which was originally established as a Philips Semiconductors plant in the late 1990s before transitioning to STMicroelectronics in 2009. This site specializes in high-volume assembly, testing, and packaging of semiconductor devices, particularly for automotive, industrial, and consumer applications. Known for its advanced cleanroom technology and strong quality standards, ST Calamba plays a vital role in the company's global supply chain. ST's broader product portfolio includes microcontrollers, Micro-Electro-Mechanical Systems (MEMS) sensors, power semiconductors, and secure Integrated Circuits (ICs), many of which are found in today's most recognizable electronic products—from smartphones and wearables to smart appliances and automotive systems. The company remains committed to innovation and sustainability, with a goal of achieving carbon neutrality by 2027.

Nature of Assignments or Tasks Given

During the internship, the student was assigned to the New Product Introduction (NPI) department, where they were entrusted with a range of project management tasks such as documentation, packaging coordination, and report preparation. Although some responsibilities fell outside the scope of their academic background, the student was given the opportunity to explore technical aspects of the department's operations, such as creating orthographic drawings of products and experimenting with various machines within the company's premises. This hands-on exposure provided valuable insight into the practical challenges faced by the team.

One recurring issue observed within the NPI department was the difficulty in tracking and locating project materials. Due to the department's involvement in multiple concurrent projects, confusion and mix-ups frequently occurred, often resulting in misplaced items and unnecessary trips to the storage area. Recognizing this inefficiency, the student proposed a solution to streamline material tracking and reduce manual effort. Upon approval, the student's main project became the development of a Material Tracker/Repository, a centralized system designed to help employees monitor the status and location of materials without physically checking storage areas.

Although the company had an existing application with similar functionality, it was not actively used by employees, with no clear reason provided. The student's proposed system aimed to address usability and accessibility gaps, offering a more intuitive and practical tool tailored to the department's workflow.

The final project was a web-based application built using HTML and CSS for the front-end interface, and Python Flask with JavaScript for the back-end logic. For data storage, the system utilized both Excel and SQLite, chosen due to restrictions on using external applications

or databases for security reasons. This solution was designed to enhance operational efficiency within the NPI department and serve as a scalable tool for future process improvements.

Total Hours Rendered

As of July 17, 2025, the student has completed a total of 332 internship hours, encompassing both foundational training and applied technical work. The initial 32 hours were spent on essential modules covering HR protocols, cybersecurity, and manufacturing safety, followed by 16 hours on Power BI fundamentals and 7 hours on Quality Control tools, which introduced key concepts in data visualization and process reliability. To build industry-specific knowledge, the student engaged in 22 hours of training on electronics manufacturing and NPI/R&D methodologies, gaining insight into production workflows and innovation strategies.

In addition, 50 hours were dedicated to statistical analysis and report generation, supporting data-driven decision-making within the department. The majority of the internship accumulated a total of 212 hours, focusing on coding and software development, where the student worked on creating systems and platforms for automation and optimization. This included designing web applications, integrating databases, and developing tools to improve material tracking and workflow efficiency. Overall, the experience provided a balanced blend of theoretical learning and practical application, equipping the student with valuable skills for future technical roles.

Presentation of Output

NPI Materials Repository

Following the initial trainings and orientations, the student promptly began work on the main project, which was designed to assist project owners in efficiently tracking materials associated with their respective projects. The system features several integrated modules to support this goal, including a login and registration interface, a materials repository for centralized tracking, an analytics dashboard for data insights, and a management page for administrative control. These components work together to streamline material monitoring, reduce manual errors, and improve overall project visibility within the department.

Figure 2. Login Form

Figure 3. Registration Form

The image labeled Figure 2. Login Form illustrates the user interface for accessing the repository system. Users are prompted to enter their ST Email and Password, with a clearly visible Login button to proceed. For new users, a registration form, shown in Figure 3. Registration Form, is available just below the login button, making the interface intuitive and user-friendly. This login form serves as the system's entry point, ensuring secure access to project materials and data.
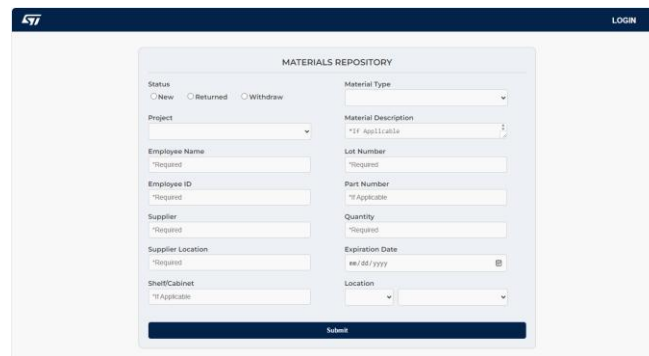

Figure 4. Materials Repository Form

The Materials Repository Form, shown in Figure 4, serves as the central component of the system, essentially the heart of the material tracking process. It allows users to log materials directly into the database for monitoring without requiring login credentials, making it easily accessible for quick entries. The form includes essential fields such as status, project, employee details, supplier information, material specifications, and location, ensuring that all relevant data is captured for accurate tracking. By streamlining the input process, this form plays a critical role in maintaining real-time visibility of materials across projects.
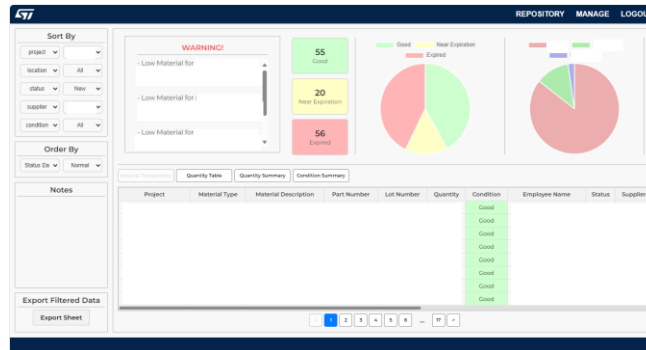
Figure 5. Analytics Page

Figure 5. Analytics Page displays all relevant data and information about the materials in the system. Users can utilize the Sort By and Order By functions to filter and organize the data according to their preferences. A warning notification is triggered when a material reaches its defined threshold, alerting the user both on-screen and via email, sent to the address provided during registration. The system also tracks the status of materials such as Good, Near Expiration, or Expired, helping users identify items that are running low or approaching expiration. Notes serve as precautionary instructions or reminders for users, while the Export button allows users to download the current data displayed in the material transactions table for reporting or backup purposes.
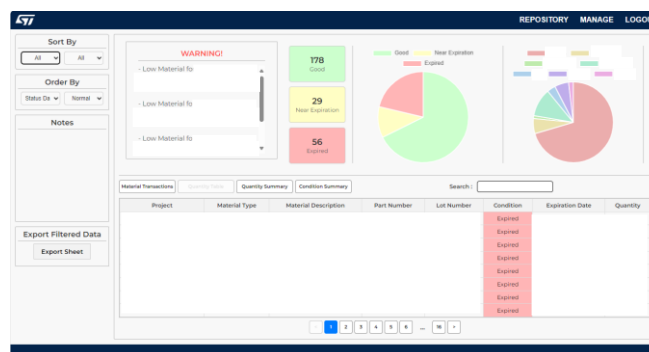
Figure 6. Quantity Table
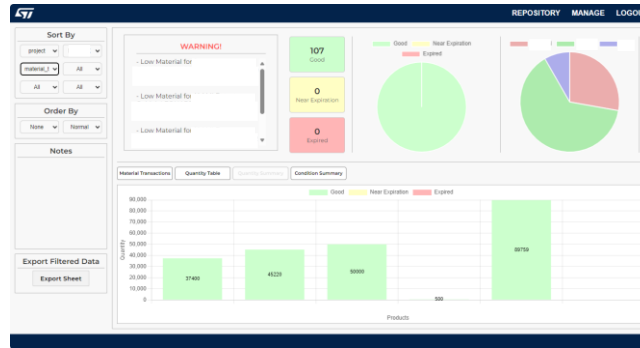
Figure 7. Quantity Summary
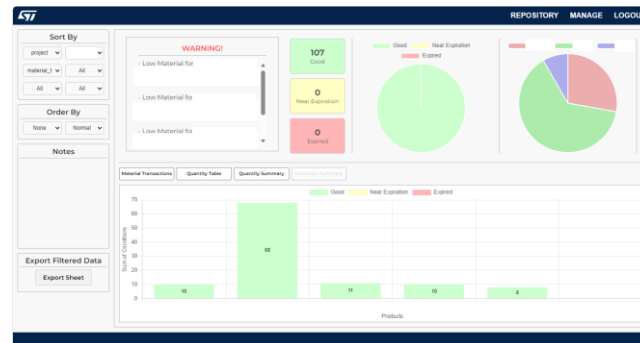
Figure 8. Quantity Summary

Figure 6 displays the total quantity of each material associated with a user's project. The values are dynamically calculated based on the status inputs provided by users. Materials marked as New represent the initial quantity, while Withdrawn indicates the amount subtracted from that total. Any Returned materials are added back to the remaining quantity, resulting in an updated and accurate inventory count.

Figure 7 presents a graphical representation of each material's quantity, offering a visual overview of stock levels. Meanwhile, Figure 8 categorizes materials based on their condition, showing how many are in Good, Near Expiry, or Expired status thus, helping users monitor inventory health and prioritize replenishment or disposal actions.

Figure 9. Project Manage Form

Figures 9 to 12 illustrate the various components of the Manage Page, a feature designed to give authorized users administrative control over key aspects of the system. This page serves as a centralized hub for managing projects, users, materials, and storage areas, ensuring that the repository remains organized and adaptable to evolving departmental needs.

Figure 9 shows the interface for creating or removing projects, allowing users to define new initiatives or archive completed ones. This helps maintain a clean and relevant project list, especially in environments where multiple projects run concurrently.

Figure 10. Employee Manage Form

Figure 10 highlights the functionality for adding or removing users and assigning roles or positions based on their associated projects. This ensures that access and responsibilities are properly distributed, supporting both collaboration and accountability within the system.

Figure 11. Material Manage Form

Figure 11 focuses on the material management module, where users can add new materials and set threshold values to trigger alerts when stock levels fall below acceptable limits. This feature is crucial for maintaining inventory accuracy and preventing shortages.

Figure 12. Location/Area Manage

Figure 12 displays the section for defining new storage areas, allowing users to map out physical locations within the facility where materials are stored. By assigning materials to specific areas, the system enhances traceability and reduces the time spent locating items.

Together, these features make the Manage Page a powerful tool for overseeing the repository's structure and ensuring that the system remains efficient, secure, and responsive to the department's operational demands.

<center>**Synthesis of the Practicum Engagement**</center>

Learnings

During the practicum at STMicroelectronics Calamba, the student acquired a broad range of technical and professional skills that extended beyond academic learning. The initial weeks focused on company orientations covering cybersecurity, HR protocols, emergency response procedures, and manufacturing safety. These sessions emphasized the importance of discipline, situational awareness, and accountability within STMicroelectronics.

Upon joining the New Product Introduction (NPI) department, the student began applying analytical and programming skills to real-world tasks. They worked with tools such as Power BI and Excel to visualize data, generate reports, and document inventory. Exposure to departmental workflows also helped the student understand how technical contributions align with broader organizational goals.

The most significant learning experience came from developing a web-based Material Tracker/Repository system. Using HTML, CSS, Python Flask, JavaScript, Excel, and SQLite, the student designed and built a functional tool to address inefficiencies in material tracking. This project strengthened their coding abilities, deepened their understanding of system architecture, and taught them how to balance front-end design with back-end logic. It also involved gathering user feedback, iterating on functionality, and delivering a solution tailored to departmental needs.

In addition to technical growth, the student developed key soft skills that proved essential throughout the practicum. They enhanced their communication by presenting reports, discussing ideas, and collaborating with team members. Their problem-solving and critical thinking were refined through tasks that required identifying inefficiencies and proposing practical solutions.

The student also demonstrated adaptability by taking on responsibilities outside their academic background such as orthographic drawing and machine handling, and successfully navigating a fast-paced, multidisciplinary environment. These soft skills contributed to their confidence, professionalism, and effectiveness as a team member.

Realizations

One of the key realizations the student gained during the practicum was that technical expertise alone is not sufficient to succeed in a professional setting. While their programming and analytical skills were essential, it was their ability to adapt, communicate, and collaborate that truly enhanced their contributions. Whether debugging a module, refining a user interface, or presenting a report, the student observed how initiative and interpersonal skills play a vital role in driving progress within a team.

The student also came to appreciate the complexity of industrial operations and the critical role of software in supporting efficiency and accuracy. Challenges faced by the NPI department such as material management highlighted how even minor gaps in process visibility can lead to significant delays. By proposing and developing a solution, the student realized how technology can bridge operational gaps and empower teams to work more effectively.

Another important realization was the value of teamwork and shared problem-solving. Throughout the practicum, the student collaborated with supervisors and peers to brainstorm ideas, resolve technical issues, and refine project features. These interactions reinforced the importance of listening, giving and receiving feedback, and aligning individual efforts with collective goals. The student saw firsthand how a supportive and communicative team environment fosters innovation, resilience, and continuous improvement.

Conclusion

The practicum engagement at STMicroelectronics Calamba provided the student with a well-rounded and transformative experience that bridged academic knowledge with real-world application. Through structured training, technical development, and collaborative tasks, the student not only strengthened their proficiency in programming, data analysis, and system design but also cultivated essential soft skills such as communication, adaptability, and teamwork.

The development of the Material Tracker/Repository system served as an experience, allowing the student to apply their skills to a meaningful project that addressed a real operational challenge. This process reinforced the importance of user-centered design, iterative improvement, and cross-functional collaboration; key themes that emerged throughout the practicum.

Ultimately, the student concluded that success in a professional environment relies not just on technical competence, but on the ability to work effectively within a team, respond to challenges with creativity and resilience, and contribute to solutions that benefit the broader organization. The practicum affirmed their passion for problem-solving and continuous learning and equipped them with the confidence and experience to pursue future roles in both technical and collaborative settings.

APPENDIX A

Competency Based CV

Robby P. Galang

Block 14 Lot 6 Phase 3 Garden Villas 3 • Santa Rosa, 4026 • rpgalang20@gmail.com • 09564716836

Education

Mapúa Malayan Colleges Laguna   **Cabuyao, Laguna**
Bachelor of Science in Computer Science   *Expected* October 2025
President's Lister
Relevant Coursework: Software Engineering, Web Development, Machine Learning

Projects

AgriKA
Thesis Project
- Developed a deep learning model integrating CNN-based feature extraction and LSTM for temporal modeling to predict rice yield.
- Used Tensorflow and Resnet50 for modeling and AWS for the website.

LORO
Microsoft ASEAN AI for Accessibility Hackathon 2024
- Presented a startup pitch for an AI-driven mobile app to enhance speech learning for children with speech disabilities.
- Secured 2nd Place

Haste-urant
Final Project - Software Engineering
- Developed a POS system for unlimited food service, enabling customers to reorder from their seats without waiter interaction.
- Built using HTML and PHP for front-end and back-end, ensuring a smooth user experience and efficient data management.

GM3 (Gamitin Mo Mata Mo)
Final Project
- Developed a color-based game where players identify the color that differs from the rest. The game increases in difficulty with each correct answer, enhancing visual perception and reaction time.
- Utilized Xamarin and XAMPP with PHP for data handling.

Bibe Kalma
Final Project - Game Development
- Developed a 2D endless runner game where players dodge obstacles and earn points. The game features progressive difficulty levels and a coin system to unlock new characters.
- Built using Unity.

Additional

Language: Tagalog, English
Technical Skills: Python, C#, PHP, HTML, JavaScript, Xamarin, Unity, GitHub, Word, Excel, PowerPoint
Soft Skills: Problem Solving, Teamwork, Time Management, Adaptability, Analytical Thinking
Interests: Game Development, Software Development, Artificial Intelligence, Machine Learning
Certifications: CompTIA IT Fundamentals+, AWS Academy Cloud Foundations, Google Skill Boosts

APPENDIX B

Endorsement Letter

MAPÚA
MALAYAN COLLEGES
LAGUNA

CCIS COLLEGE OF COMPUTER
AND INFORMATION SCIENCE
MAPÚA MALAYAN COLLEGES LAGUNA

31 March 2025

MS. JOVY ORDOÑA
HR Recruitment Manager, STMicroelectronics, Inc.
Light Industry and Science Park II, ST-Ericsson
9 Mountain Drive, Calamba, Laguna 4026

Dear Ms. Ordoña,

The BS Computer Science program of Mapúa Malayan Colleges Laguna requires their students to undergo a Practicum program for a minimum of 324 hours during the third term of our academic calendar.

We would like to request that **Mr. Robby P. Galang** be permitted to have his training in your company. We believe that your company can provide the relevant exposure necessary for our students to achieve the intended learning outcomes for the BS Computer Science program. We are confident that he will be able to acquire the practical knowledge and skills expected from a Computer Science graduate which, in turn, would guarantee a continuous supply of CS professionals needed by your company.

We thank you for your favorable action and we look forward to a more meaningful linkage that is mutually beneficial to our students and your company.
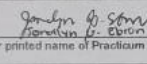
With warm regards,

JONALYN G. EBRON
BS Computer Science Program Chair
College of Computer and Information Science
Mapúa Malayan Colleges Laguna
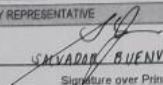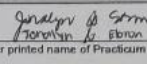
jgbebron@mcl.edu.ph
(049) 832-4076

APPENDIX C
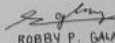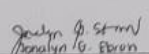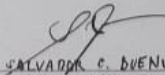
Signed Acceptance Form

PRACTICUM CONFIRMATION AND ACCEPTANCE FORM

IMPORTANT INFORMATION
- STUDENTS ACCEPTED FOR PRACTICUM IN A HOST COMPANY WILL HAVE TO ACCOMPLISH THIS FORM.
- ASK THE PRACTICUM SUPERVISOR/ COMPANY REPRESENTATIVE TO FILL IN THE DETAILS OF THE TRAINING.
- SUBMIT TO THE PRACTICUM ADVISER/COORDINATOR PRIOR TO THE START OF TRAINING.

| NAME OF STUDENT | ROBBY P. GALANG | STUDENT NUMBER | 2021150030 |
| COURSE CODE | CS199F | SY/TERM ENROLLED | 2024 - 2025 / 3rd Term |

This is to certify that ___ROBBY P. GALANG___ (name of student-trainee) has been accepted for practicum at _STMicroelectronics Inc. 9 Mt. Drive, Light Industry Science Park II, Brgy. La Mesa, Calamba Laguna_ (name and address of establishment) and will be attached to the __New Product Introduction (NPI)__ department/s for a minimum of, but not limited to __324__ hours. Training will commence on _April 22_ and is expected to end on _July 31_. Attached is the list of requirements.

COMPANY REPRESENTATIVE

SALVADOR BUENVIAJE JR.
Signature over Printed Name

NPI
Department

SR. ENGINEER
Official Designation

salvador.buenviajejr@st.com
Email and Contact Number/s

NOTED BY

Jonalyn G. Ebron
Signature over printed name of Practicum Coordinator

May 6 2025
Date

COPY: (1) STUDENT; (2) HOST COMPANY; (3) PRACTICUM COORDINATOR

FORM OVPAA 030B
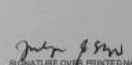
APPENDIX D

Signed Liability Form

MAPÚA
MALAYAN COLLEGES
LAGUNA

STUDENT TRAINING AGREEMENT AND LIABILITY WAIVER

IMPORTANT INFORMATION
- THIS FORM IS TO BE ACCOMPLISHED AND SUBMITTED BY STUDENT TRAINEE TO THE PRACTICUM ADVISER BEFORE STARTING THE PRACTICUM
- READ AND UNDERSTAND THE PROVISIONS OF THIS AGREEMENT AND WAIVER.
- ENSURE THAT ALL SIGNATORIES SIGN THE FORM.

I, ROBBY P. GALANG, and a student of MALAYAN COLLEGES LAGUNA (hereinafter referred to as "MCL", do hereby voluntarily undergo on-the-job training at STMicroelectronics Inc., hereinafter referred to as the "Host Company", located at 9 Mt. Drive, Light Industry Science Park II, Brgy. La Mesa, Calamba City, Laguna, under the following terms and conditions:

a. That the practicum training will commence on April 22 and ends on July 31 and will have to complete a minimum of 324 hours required for the on-the-job training;
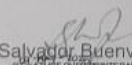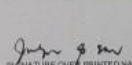
b. That I shall observe proper decorum and act professionally at all times and abide by the Company's rules and regulations and comply with those imposed for the training program, otherwise, I shall be excluded from further participation;

c. That in the course of my training program, I may have access to information which may be of confidential in nature and proprietary to the Company, for which I may be required to execute a confidentiality and non-disclosure agreement as a prerequisite to my participation in the training program;

d. That the time I will spend on the training program in the completion of my on-the-job training requirements will not and should not be interpreted or construed as working hours and should be regarded as non-compensable. Provided that, the Company may, as a unilateral act of liberality or generosity on their part, provide me with meal, travel, transportation allowances, accommodations, etc.;

e. That I fully understand that notwithstanding the allowances enumerated in the preceding section which I may receive, there exists no labor-management and/or employer/employee relationship between me and the Company where I will undergo my training;

f. That I shall exercise due care and diligence in the tasks assigned to me and personally be made answerable for any and all liabilities for damage to property or injury to third person, which may be occasioned by my intentional or negligent acts during the course of my on-the-job training;

g. That I shall likewise hold the Host Company and MCL free and harmless from any and all liability and responsibility for any sickness or injury to myself and third parties and damage to property which I may sustain and/or may occur at any time during the training program, including time spent in traveling to and from any and all premises and locations where I may be required to go to as part of my training program;

h. That the Company reserves the right to discontinue my training on reasonable grounds upon written notice to MCL and myself. Additionally, in the event my training program is discontinued for reasons attributable only to myself, I may be made to reimburse the Host Company for any/all the allowances, stipends, etc., which I may have received from them during and prior to the termination of my training program;

i. That in addition to my liability under section g and for the pre-termination of my training program provided for under section h hereof, I may be subjected further to disciplinary action in accordance with the school's student manual and/or be a ground for disqualification from graduation;

Signed on this 6th day of May 2025

ROBBY P. GALANG
Signature over printed name of **Student Trainee**

WITH OUR CONSENT: _____
Signature over printed name of **Parent/Guardian**
(for minors only)

NOTED BY:

Jocelyn P. Sison
Jonalyn G. Ebron
Printed Name and Signature of **Practicum Adviser/ Coordinator**

SALVADOR C. BUENVIAJE JR.
Printed Name and Signature of **Host Company Representative**

COPY: (1) STUDENT, (2) HOST COMPANY, (3) PRACTICUM ADVISER, (4) PRACTICUM COORDINATOR

FORM OVPAA 030C
THIS FORM IS AVAILABLE AT THE OVPAA.

APPENDIX E

Signed Training Plan

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LAGUNA

TRAINING PLAN

NAME	Robby Galang	COURSE CODE	CS199F
PROGRAM & STUDENT NO.	BSCS	2021150030	COURSE TITLE	CS PRACTICUM

STUDENT OUTCOMES

1. Acquire foundational knowledge on semiconductor value chain, assembly, and test manufacturing with emphasis on process flow.
2. Immersion and fundamental knowledge on NPI/R&D methodologies and way of working.
3. Application of software skills to create platforms / systems in automation and optimization of project management activities.
4. Application of data analysis and statistics to generate engineering reports and synthesize insights.
5. Enhance communication skills through stakeholder engagement and project management.

AREAS / PHASES OF TRAINING AND TIME ALLOTMENT

1. Basic HR, cybersecurity, manufacturing protocols - 32h
2. Power BI fundamentals - 16h
3. Foundational knowledge on electronics manufacturing & NPI/R&D organization / methodologies - 22h
4. Coding/programming of software for systems/platforms in automation/optimization of PM - 200h
5. Statistical analysis and report generation for insights synthesis - 100h

EVALUATION GUIDELINES & COURSE OUTCOMES

DEMONSTRATION OF SOFT SKILLS (40%)	DEMONSTRATION OF TECHNICAL SKILLS (60%)
KEY AREAS	**KEY AREAS**
COMMUNICATION SKILLS (20%)	Software SKILLS (X%) — Software Skills - 30% Demonstration of coding & programming skills to create effective and handy apps / platforms for various automation purposes on time.
Relate to co-trainees/supervisors terminologies and rules	
Recite procedures and instructions needed for the tasks	
Identify and describe safety signs and symbols	Data Analysis SKILLS (Y%) — Data Analysis Skills - 15% Application of statistical knowledge and data visualization skills to create engineering reports and to derive insights.
Ask critical questions related to the tasks	
Produce well-written regular and incident reports	
Prepares and presents reports using Information and Communication Technology (ICT)	Project Management SKILLS (Z%)
PROFESSIONAL DEPORTMENT (20%)	Project Management Skills - 15% Agile delivery of project needs and effective communication with various stakeholders to drive the project timely in accordance to target milestones.
Observes proper grooming and attire	
Reports to work regularly on time and as necessary, even beyond prescribed working hour	
Acts according to the job description given by the company	
Willing to accept new tasks apart from the usual routine and responsibilities	
Delivers quality output on time	
Demonstrates respect for different individuals	
INITIATIVE (+5%)	**INITIATIVE (+5%)**
Volunteers to perform tasks beyond routine tasks	Volunteers to perform tasks beyond routine tasks

CONFORME	CONSENT (FOR MINORS ONLY)	NOTED BY	ENDORSED BY	APPROVED BY
ROBBY F. GALANG 04 / 06 / 2025 SIGNATURE OVER PRINTED NAME OF STUDENT / DATE	SIGNATURE OVER PRINTED NAME OF PARENT OR GUARDIAN / DATE	Salvador Buenviaje J SIGNATURE OVER PRINTED NAME OF PRACTICUM SUPERVISOR / DATE	SIGNATURE OVER PRINTED NAME OF PRACTICUM ADVISER / DATE	SIGNATURE OVER PRINTED NAME OF PROGRAM CHAIR / DATE

COPY: (1) STUDENT; (2) HOST COMPANY; (3) PRACTICUM COORDINATOR

FORM OVPAA-030D
THIS FORM IS AVAILABLE AT THE OVPAA.

APPENDIX F

Daily/Weekly Reports

MAPÚA
MALAYAN COLLEGES
LAGUNA

DAILY JOURNAL

IMPORTANT INFORMATION
- INCLUDE TASK ASSIGNMENTS OR MOVEMENTS, REFLECTION ON THE DAY'S NEW LEARNING, ACCOMPLISHMENT, CHALLENGES FACED AND HOW YOU RESPONDED, OBSERVATIONS AND RECOMMENDATIONS ON THE IMPROVEMENT OF SYSTEMS / OPERATION / MANAGEMENT, ETC.
- SCANNED COPIES OF THIS FORM SHALL BE SUBMITTED ON A WEEKLY BASIS THROUGH APPROVED LMS.
- HARD COPIES OF THIS FORM SHOULD BE COMPILED AS PART OF THE STUDENT'S PORTFOLIO.

DATE	April 22-25, 2025	AREA ASSIGNMENT	New Product Introduction (NPI)
TASK	Trainings	SHIFT/TIME	8:30am - 5:30pm

My first week in STMicroelectronics mainly focused on company introduction, tours, and what to look forward to in our ojt. mainly specific house rules and what to do and what not to do. On Day 1, we had an introduction on STMicroelectronic's cybersecurity, actual security, and what makes a good STM employee. On Day 2, we did a group pictorial and started our PowerBI and 7 QC tools training. We started with wrangling data and visualizing data provided by STM. We also learned basic quality control for the workplace. On Day 3, we continued with our PowerBI and 7 QC tools training. This was also the day we completed both trainings. On Day 4, we were oriented by the emergency response team ERT. Which oriented us on what to do and what not to do when inside production. On Day 5, I did not go to STM because we had to attend a seminar in MMCL.

TRAINEE'S SIGNATURE

COPY: (1) STUDENT; (2) PRACTICUM ADVISER

FORM OVPAA 030G

THIS FORM IS AVAILABLE AT THE OVPAA.

MAPÚA
MALAYAN COLLEGES
LAGUNA

DAILY JOURNAL

IMPORTANT INFORMATION
- INCLUDE TASK ASSIGNMENTS OR MOVEMENTS, REFLECTION ON THE DAY'S NEW LEARNING, ACCOMPLISHMENT, CHALLENGES FACED AND HOW YOU RESPONDED, OBSERVATIONS AND RECOMMENDATIONS ON THE IMPROVEMENT OF SYSTEMS / OPERATION / MANAGEMENT, ETC.
- SCANNED COPIES OF THIS FORM SHALL BE SUBMITTED ON A WEEKLY BASIS THROUGH APPROVED LMS.
- HARD COPIES OF THIS FORM SHOULD BE COMPILED AS PART OF THE STUDENT'S PORTFOLIO.

DATE	April 28 - May 2, 2025	AREA ASSIGNMENT	New Product Introduction (NPI)
TASK	Trainings and Orientations	SHIFT/TIME	8:00pm to 5:30pm

During my second week at STMicroelectronics, our team continued with the orientation facilitated by the Emergency Response Team (ERT). Their sessions were not only insightful but also crucial in helping us understand the importance of safety protocols and emergency preparedness inside a high-precision production environment. On Day 5, the ERT walked us through various scenarios and instructed us on the do's and don'ts within the production floor. They emphasized real-life examples to help us grasp how to respond during emergencies, such as chemical spills, fire incidents, or electrical hazards. This gave us a clear understanding of the safety culture upheld within the company. On Day 6, we concluded our sessions with the ERT. It was also a pivotal day as I was officially introduced to the New Product Introduction (NPI) department. I had a chance to meet several team members and observe their workflow, which gave me an initial idea of how the department contributes to transitioning new products from design to mass production. On Day 7, I was entrusted with my first individual task: to create a PowerPoint presentation/report intended for the product managers. This allowed me to explore the department more freely, understand their tools, and analyze how they manage product timelines and milestones. Being granted that autonomy encouraged me to ask questions, interact with the team more confidently, and begin identifying how I could contribute meaningfully. On Day 8, I was given a more data-focused assignment. I received an existing dataset and was asked to generate a report using Microsoft Excel. This task helped me better understand the kind of data the NPI department deals with regularly, and how they monitor product quality and progress through spreadsheets and reporting tools. It was both a challenge and an exciting opportunity to apply my analytical skills in a real-world corporate setting.

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DATE	May 5-9, 2025	AREA ASSIGNMENT	New Product Introduction (NPI)
TASK	NPI Familiarization	SHIFT/TIME	8:30am - 5:30pm

During my third week at STMicroelectronics, I began to feel more comfortable and confident within the New Product Introduction (NPI) department. I was able to build upon what I had learned during the previous week and started applying those concepts using new tools and real-world tasks. On Day 9, I was asked to take the dataset I previously worked on and explore it using Power BI instead of Excel. This shift allowed me to visualize the data more interactively and uncover patterns through dashboards and visual reports—giving me hands-on experience in modern business intelligence tools. On Day 10, our supervisor gathered us to discuss key challenges the company faces in its processes. This became an ideation session, where we were encouraged to brainstorm possible solutions—giving us a glimpse into how problem-solving and continuous improvement are approached within the organization. Later that same day, we were given a more operational task: to help sort and document the NPI department's physical inventory. We meticulously organized the items and recorded them in Excel, eventually generating a report that reflected their current inventory status. On Day 11, we continued and completed the inventory sorting process, wrapping up the task around mid-afternoon. While it was a more hands-on assignment, it gave me insight into how inventory accuracy ties into data reporting and broader product lifecycle management.

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DATE	May 13-16, 2025	AREA ASSIGNMENT	New Product Introduction (NPI)
TASK	NPI Inventory Management	SHIFT/TIME	8:30 am - 5:30 pm

In my fourth week at STMicroelectronics, I officially began working on my main project within the NPI Department. Building upon the issues we previously identified during discussions with my supervisor, we agreed to develop a web-based system that could address some of those gaps—particularly around accessibility, reporting, and process visibility. On Day 13, I laid the foundation for the project by designing the main layout and visual style of the site. I focused on creating a user-friendly interface that was clean, intuitive, and aligned with the department's workflow. This initial stage helped set the tone for the rest of the application. On Day 14, I shifted toward backend development and started building additional pages. I also had a check-in discussion with my supervisor to refine the project scope. We talked through the functionalities the system needed—such as interactive forms, real-time data entry, and inventory tracking—and I began designing the technical structure to support those needs. On Day 15, I continued improving the backend logic and worked on fine-tuning the system's flow across multiple pages. I focused on database integration, form validation, and smooth navigation to ensure consistency and accuracy across the interface. On Day 16, I pushed further into development—tackling more complex pages and ensuring each section worked as expected. At this stage, I was balancing front end aesthetics and back-end logic, making sure the system was not only functional but also end aesthetics and back-end logic, making sure the system was not only functional but also

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DATE	May 19-23	AREA ASSIGNMENT	New Product Introduction (NPI)
TASK	NPI Inventor Management Part 2	SHIFT/TIME	8:30 am - 5:30 pm

In my fifth week at STMicroelectronics, I continued developing my main project while also picking up new skills and contributing to department-related tasks. It was a productive mix of technical implementation and applied learning. On Day 17, I focused on enhancing the web application by implementing a role-based access control system. This allowed specific users to have tailored permissions—such as view-only, edit, or admin—depending on their role in the department. It was an important step in ensuring data privacy and controlled accessibility within the tool. On Day 18, I introduced additional user interface improvements, including an interactive carousel feature. This allowed users to easily navigate between different projects and select the one they wanted to edit, adding both functionality and a smoother user experience to the application. On Day 19, I was given the opportunity to explore JMP, a statistical analysis tool. I was tasked to create an orthographic projection for one of the department's products. This gave me hands-on exposure to data visualization and dimensional analysis—providing a deeper understanding of product documentation processes. On Day 20, I briefly stepped out of STMicro to help conduct field testing at city halls related to our thesis research. Later in the afternoon, I returned to the office to continue working on the web application—refining its features and returned to the office to continue working on the web application—refining its features and

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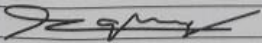### MALAYAN COLLEGES
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DATE	June 23-27	AREA ASSIGNMENT	New Product Introduction (NPI)
TASK	NPI Inventor Management Part 3	SHIFT/TIME	8:30 am - 5:30 pm

In my sixth week at STMicroelectronics, I returned to the NPI department after a week-long absence and resumed development on the main web application project. The return began with resolving technical issues that had emerged while I was away. On Day 21, I immediately synchronized with my team and assisted in identifying and resolving a bug that had affected one of the core modules. It was a productive day of collaborative debugging and getting fully reacquainted with the project's recent changes. On Day 22, I focused on refining the overall codebase to improve readability, maintainability, and efficiency. I implemented cleanup routines and restructured parts of the code to follow best practices, ensuring the web application runs more smoothly. Alongside this, I continued enhancing functionality based on prior feedback from team members, fine-tuning both frontend and backend components. Day 23 was dedicated primarily to user interface optimization. I worked on simplifying the layout to create a more intuitive experience, ensuring that key information is immediately visible once the site loads. The goal was to present the most relevant content to the user with minimal clicks, improving usability without compromising design. Small but thoughtful UI adjustments were made to streamline user interaction and increase overall satisfaction with the tool.

This week highlighted the importance of adaptability and collaboration in a team-based development environment. Despite the temporary absence, I was able to jump back into the project, contribute effectively, and maintain consistent progress in both technical and design aspects of the system.

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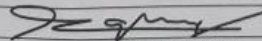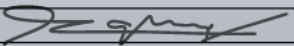## MALAYAN COLLEGES
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DATE	June 30 - July 4	AREA ASSIGNMENT	New Product Introduction (NPI)
TASK	NPI Inventory Management Part 4	SHIFT/TIME	8:30 am - 5:30 pm

My seventh week at STMicroelectronics involved a diverse mix of web development tasks and logistical responsibilities, reflecting both my technical focus and adaptability in dynamic team settings. On Day 24, I continued work on the department's internal web application, concentrating primarily on refining the user interface for improved clarity and visual coherence. This involved adjusting layout elements and user interaction flows to better align with feedback from previous sessions. Due to school-related commitments, I only worked a half-day but still managed to make meaningful contributions to the UI, reaffirming the importance of time management and task prioritization in a fast-paced environment. Day 25 introduced a new feature development challenge: implementing a multi-level sorting functionality using a series of five dropdown menus. These dropdowns were designed to appear sequentially, only revealing the next when a selection had been made in the current one. Alongside this logic, I ensured that the data table below dynamically responded to the selected filters, offering users a more tailored and intuitive browsing experience. This task pushed me to think critically about state management and conditional rendering within the web app's framework, further strengthening my frontend development skills. On Day 26, the focus briefly shifted to support operational tasks, particularly the packaging and shipment of materials to the warehouse. Despite this change of pace, I remained engaged with the web application by returning to improve UI components affected by the newly added dropdown features. This back-and-forth between development and hands-on logistics underscored the multidisciplinary nature of my internship. Day 27 followed a similar flow to the previous day but extended my responsibilities to include receiving items from the warehouse and organizing them systematically in the NPI Storage Room. I coordinated closely with other staff to ensure proper inventory tracking and space optimization. Overall, this week highlighted the synergy between consistent web development progression and supporting day-to-day operations within a tech-focused environment. Balancing programming logic with real-world coordination allowed me to apply my skills in a broader context, while learning to be more agile and resourceful within the team.

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DATE	July 7-11	AREA ASSIGNMENT	New Product Introduction (NPI)
TASK	NPI Inventory Management Part 5	SHIFT/TIME	8:30 am - 5:30 pm

My eighth week at STMicroelectronics was a blend of technical advancement, cross-team collaboration, and operational involvement, all of which helped strengthen my adaptability and problem-solving mindset. On Day 28, I was assigned to assist on the production line to help verify that all items were properly placed and organized, and that no safety hazards were present. It was a hands-on experience that required attention to detail and a proactive approach to workplace safety. Later that day, I handled shipping requests under the supervision of our team lead. This task gave me a clearer understanding of the internal processes around material movement and logistics, which are essential but often overlooked aspects of tech environments. On Day 29, I returned to the core web application project. Wanting to ensure a smooth user experience and catch any unnoticed bugs, I invited fellow OJT students to test the application and share feedback. Their insights were helpful in identifying edge cases and minor inconsistencies. I used the rest of the day to polish the UI and improve backend organization, enhancing code structure and ensuring responsiveness across different views. Day 30 brought another feature request for the web app, which expanded the data visualization components. I added a new table summarizing overall item quantities, followed by two graphs: one illustrating total quantities over time, and another comparing materials in good condition versus those needing attention. These additions required me to work closely with both frontend rendering tools and backend data logic, pushing me to think more critically about data representation and user clarity. On Day 31, my main focus was refining the user interface to accommodate these new features. With multiple elements introduced in a short span, I made layout adjustments, ensured components weren't cluttered, and improved navigation flow. It was a challenge to keep the design intuitive while balancing functionality.

Finally, Day 32 marked an important step toward finalizing our web application. I once again asked other OJTs to engage with the system and provide feedback, which helped validate the improvements made. Throughout the day, I continued organizing both backend components and UI assets to ensure everything was properly documented, responsive, and ready for potential deployment. Each task contributed to my growth as a student-developer, emphasizing the importance of technical rigor, collaboration, and continuous iteration.

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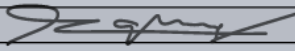
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DATE	July 14-18	AREA ASSIGNMENT	New Product Introduction (NPI)
TASK	NPI Inventory Management Part 6	SHIFT/TIME	8:30 am - 5:30 pm

My ninth week at STMicroelectronics centered around preparation, presentation, and practical feedback, marking a significant milestone in our internship journey. On Day 33, I focused on crafting our presentation slides for the final demo scheduled on the 18th. This included outlining the structure, organizing key content from our web application project, and coordinating with my teammates for consistency. I also sought feedback and guidance from our supervisor to ensure the flow was aligned with what the department expected. It was a day of quiet but purposeful refinement. Day 34 continued the presentation preparations. I dedicated time to rehearsing with the team, making sure that each member was confident in their part and that transitions between topics were smooth. Beyond the presentation, I was also asked to prepare shipping paperwork, an administrative responsibility that reinforced the importance of attention to detail and cross-functional support in the workplace.

On Day 35, we conducted a full dry run of the presentation with the support and guidance of several NPI supervisors. Their constructive feedback highlighted areas we hadn't considered, including how to better frame our application's real-world value to non-technical stakeholders. We immediately set to work on refining our pitch, improving transitions, and anticipating follow-up questions that might arise during the actual presentation. It was intense but incredibly helpful in shaping a stronger final delivery.

Day 36 was presentation day. We spent the morning rehearsing and polishing the flow, ensuring everything was clear and cohesive. The presentation itself was held in the afternoon, and we were proud of how it turned out. The feedback was overwhelmingly positive, with numerous questions asked, not out of skepticism, but out of genuine interest and excitement. Many of the supervisors recognized the practical value of the web application and expressed enthusiasm about potentially deploying it for internal use. Their input didn't just validate our efforts—it helped us view the application through the lens of long-term usability and impact.

This week was a powerful reminder of the importance of communication, preparation, and openness to feedback.

Presenting something you've built is more than just showing features—it's about telling a story that resonates with others and demonstrates the real-world utility of your work. As a student, it felt incredibly rewarding to not only build something meaningful but also to present it in a professional environment with confidence and clarity.

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