Bachelor of Engineering Program in Digital Manufacturing System Engineering
(Multidisciplinary Program)
New Program 2022
Total number of credits requirement : 140 credits

(1) General Education	**minimum**	**30**	**credits**

- Wellness	**minimum**	**3**	**credits**

01175xxx   Physical Education Activity — 1(0-2-1)

and select minimum 2 credits from any courses offered in Wellness

- Entrepreneurship	**minimum**	**6**	**credits**

and select minimum 6 credits from any courses offered in Entrepreneurship

- Language and Communication		**13**	**credits**

01355xxx	English		9(- -)
	Thai language		3(- -)
	Information/Computer	minimum	1(- -)

- Thai Citizen and Global Citizen	**minimum**	**5**	**credits**

01999111   Knowledge of the Land — 2(2-0-4)

and select minimum 3 credits from any courses offered in Thai Citizen and Global Citizen

- Aesthetics		**3**	**credits**

and Select minimum 3 credits from any courses offered in Aesthetics

(2) Core Courses   minimum   104 credits

2.1) Basic Core Courses   37 credits

2.1.1) Basic Mathematics and Sciences   10 credits

01417167	Engineering Mathematics I	3(3-0-6)
01417168	Engineering Mathematics II	3(3-0-6)
01420111	General Physics I	3(3-0-6)
01420113	Laboratory in Physics I	1(0-3-2)

2.1.2) Basic Engineering   27 credits

03601101	Introduction to Industrial Electronics Engineering	3(3-0-6)
03601102	Introduction to Industrial Electrical Engineering	3(3-0-6)
03601206	Introduction to Industrial Electronics Engineering Laboratory	1(0-3-2)
03601207	Introduction to Industrial Electrical Engineering Laboratory	1(0-3-2)
03602221	Applied Probability and Statistics for Engineers	3(3-0-6)
03603101	Introduction to Computer Programming	3(2-3-6)
03603102	Basic Computer Architecture and Embedded System	3(3-0-6)
03603103	Basic Digital Circuit Design	3(3-0-6)
03609111	Basic Digital Modelling and Applications	3(2-3-6)
03609161	Digital Manufacturing System Engineering Exploration	1(0-3-2)
03609271	Fundamentals of Computation for Digital Manufacturing System Engineering	3(3-0-6)

2.2) Area of Concentration Courses   minimum   67 credits

2.2.1) Compulsory Courses   55 credits

03601208	Automation System in Manufacturing	3(3-0-6)
03601304	Automation System in Manufacturing Laboratory	1(0-3-2)
03602201	Introduction to Materials and Manufacturing Processes	3(3-0-6)
03602401	Financial and Economic Analysis	3(3-0-6)
03607331	Machine Vision and Applications in Automation System	3(3-0-6)
03607332	Artificial Intelligence for Robot and Machinery	3(3-0-6)
03609221	Production and Project Management	3(3-0-6)
03609223	Digital Work Analysis and Design	3(3-0-6)

03609231	Industrial Data Communication and Internet of Things	3(3-0-6)
03609299	Digital Manufacturing System Engineering Project I	1(0-3-2)
03609322	Virtual Factory	3(2-2-5)
03609324	Preventive and Predictive Maintenance	3(3-0-6)
03609332	Cyber Physical System and Cyber Security	3(3-0-6)
03609341	Digital Technology Applied in Manufacturing	3(2-2-5)
03609344	Production Control System	3(3-0-6)
03609351	Database Design and Data Mining	3(3-0-6)
03609352	Industrial Data Analysis and Visualization	3(3-0-6)
03609353	Industrial Measurement and Quality Management	3(2-3-6)
03609399	Digital Manufacturing System Engineering Project II	2(0-6-3)
03609426	Industrial System Analysis and Design	3(3-0-6)

2.2.2) Approved Electives   *minimum*   *12 credits*

Select minimum 12 credits from any courses offered in the following list

03600390	Cooperative Education Preparation	3(3-0-6)
03600490	Co-operative Education	6
03602417	Innovative Product Design and Manufacturing	3(3-0-6)
03602442	Energy Management	3(3-0-6)
03602473	Strategies for Managing Supply Chains	3(3-0-6)
03609433	Digital Reality in Industry	3(3-0-6)
03609451	Enterprise Information System	3(3-0-6)
03609461	Smart Logistics and Transportations	3(3-0-6)
03609462	Smart Warehouse	3(3-0-6)
03609496	Selected Topics in Digital Manufacturing System Engineering	1-3
03609498	Special Problems	1-3

(3) Free Electives   **minimum**   **6 credits**

(4) Internship   **minimum 240 hours (no credits)**

                                                   Excluding the students applied in

                                                   Co-operative Education

Course Code

A course code includes 8 digits that the use and meaning of character "position" in a course code are as the followings:

Position 1 – 2 (03)   Sriracha Campus

Position 3 – 5 (609)   Digital Manufacturing System Engineering Program

Position 6   Year Offerred

Position 7   Area of Specialization

1	Manufacturing Engineering
2	Industrial System Engineering
3	Digital Technology
4	Automation Engineering
5	Data Sciences
6	Applied Digital Technology
7	Applied Computation
9	Selected Topics, Special Problems, and Engineering Project

Position 8   Order of the course in each area of specialization