

Bachelor of Engineering (Civil - Irrigation Engineering)

Total minimum requirement 147 credits

General educations 30 credits

1. Sciences and mathematics 10 credits

01204111 Computers and Programming 3(2-3)

01403117 Fundamental of General Chemistry 3(3-0)

01403114 Laboratory in Fundamental of General Chemistry 1(0-3)

and obtain additional 3 credits from the following subjects or else in the interdisciplinary courses in sciences and mathematics

01999011 Food for Mankind 3(3-0)

01999012 Health for Life 3(3-0)

01999213 Environment, Technology and Life 3(3-0)

2. Languages 12 credits

01355xxx English 9(-)

01999021 Thai Language for Communication 3(3-0)

3. Social sciences 3 credits

Obtain 3 credits from the following subjects or else in the interdisciplinary courses in social sciences

01999041 Economics for Better Living 3(3-0)

01999141 Man and Society 3(3-0)

4. Humanities 3 credits

Obtain 3 credits from the following subjects or else in the interdisciplinary courses in humanities

01999031 The Heritage of World Civilization 3(3-0)

01999032 Thai Studies 3(3-0)

01999033 Arts of Living 3(3-0)

5. Physical education activities 2 credits

01175xxx Physical Education Activities 1,1(0-2)

Specific courses	111 credits
Core courses	24 credits
01208111 Engineering Drawing	3(2-3)
01213211 Materials Science for Engineers	3(3-0)
01417167 Engineering Mathematics I	4(4-0)
01417168 Engineering Mathematics II	3(3-0)
01417267 Engineering Mathematics III	3(3-0)
01420111 General Physics I	3(3-0)
01420112 General Physics II	3(3-0)
01420113 Laboratory in Physics I	1(0-3)
01420114 Laboratory in Physics II	1(0-3)
Major requirements	84 credits
01203211 Surveying	3(2-3)
01203212 Survey Camp	1
01203221 Mechanic of Materials I	3(3-0)
01203222 Structural Analysis I	3(3-0)
01203223 Mechanics of Materials II	3(3-0)
01203322 Civil Engineering Materials Testing Laboratory	1(0-3)
01203323 Structural Analysis II	3(3-0)
01203331 Reinforced Concrete Design	3(3-0)
01203332 Concrete and Engineering Materials	3(3-0)
01203333 Design of Timber and Steel Structures	3(2-3)
01203341 Sanitary Engineering and Water Supply	3(3-0)
01203352 Soil Mechanics	3(3-0)
01203353 Soil Mechanics Laboratory	1(0-3)
01203361 Construction Engineering and Management	3(3-0)
01203471 Highway Engineering	3(3-0)
02207211 Introduction to Irrigation Engineering	3(3-0)
02207311 Engineering Hydrology	3(2-3)
02207312 Drainage Engineering	3(3-0)
02207321 Design of Farm Irrigation Systems	3(2-3)

02207342 Engineering Management	3(3-0)
02207391 Irrigation Field Study	1
02207421 Design of Canal and Conveyance Structures	3(2-3)
02207423 Design of Pipe and Pressurized Irrigation Systems	3(3-0)
02207431 Feasibility Study and Environmental Impact Assessment of Water Resources Development Project	3(3-0)
02207441 Management of Water Resources Project	3(3-0)
02207491 Research Methods in Irrigation Engineering	1(1-0)
02207497 Seminar	1
02207499 Irrigation Engineering Project	2(0-6)
01208221 Engineering Mechanics I	3(3-0)
01209211 Fluid Mechanics	3(3-0)
01209212 Laboratory for Fluid Mechanics	1(0-3)
01209423 Hydraulic Engineering	3(3-0)
01417268 Engineering Mathematics IV	3(3-0)
Major electives	3 credits
Obtain 3 credits from the following subjects	
01003201 Crop Production	3(3-0)
01015261 Soil Science	3(2-3)
02201432 Agricultural Wastewater	3(3-0)
02201434 Soil and Water Management Engineering	3(3-0)
01203354 Foundation Design	3(3-0)
01203371 Transportation Engineering	3(3-0)
01203415 Remote Sensing for Engineers	3(2-3)
01203416 Geographic Information Systems for Engineers	3(2-3)
01203431 Prestressed Concrete Design	3(3-0)
01203451 Analysis and Design of Earth Structures	3(3-0)
01203456 Geo-environmental Engineering	3(3-0)
01203462 Contract, Specification and Construction Estimation	3(3-0)
01204112 Information Technology for Engineers	1(0-2)
01205201 Introduction to Electrical Engineering	3(3-0)

02207251 Engineering Statistics	3(3-0)
02207313 Groundwater Engineering	3(3-0)
02207341 Water and Land Resources Management Engineering	3(3-0)
02207351 Computer Application for Irrigation Engineering	3(2-3)
02207422 Design of Small Dams and Water Control Structures	3(3-0)
02207496 Selected Topics in Irrigation Engineering	1-3
02207498 Special Problems	1-3
01208222 Engineering Mechanics II	3(3-0)
01208281 Workshop Practice 1	(0-3)
01209321 Flow in Open Channel	3(3-0)
01209343 Water Resources Engineering I	3(3-0)
01209344 Water Resources Engineering II	3(3-0)
01209426 Urban Drainage Engineering Design	3(3-0)
Free electives	6 credits
Work training	240 hours