

**International Undergraduate Program**  
**Faculty of Engineering, Kasetsart University**

| <b>Course ID</b> | <b>Course Name</b>                      | <b>Credit</b> | <b>Date / Time</b>     |
|------------------|---|---------------|------------------------|
| 01204211         | Discrete Mathematics and Linear Algebra | 3             | Tue 13-16<br>Thu 13-14 |

**Course Description**

Sets, sequences, and functions; logic; the growth of functions; methods of proof and mathematical induction; recursive definitions and algorithms; counting methods and recurrence relations; relations; introduction to graph theory; vector spaces and orthogonality; matrices and matrix representations of linear systems; linear transformations; solution of linear systems; eigensystems.

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|------------------|----------------------------------|---------------|--------------------|
| 01219222         | Introduction to Computer Systems | 3             | Mon 13-16          |

**Course Description**

Low level information organization and representation; fundamentals of computing hardware organization; processes and threads; synchronization and parallel programming; memory systems; file systems; introduction to distributed systems.

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|------------------|---------------------|---------------|--------------------|
| 01219223         | Computer System Lab | 1             | Fri 9-12           |

**Course Description**

Laboratory for 01219222 Introduction to Computer Systems

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| <b>Course ID</b> | <b>Course Name</b>            | <b>Credit</b> | <b>Date / Time</b> |
|------------------|-------------------------------|---------------|--------------------|
| 01219325         | Software Development Security | 3             | Wed 9-12           |

**Course Description**

Philosophies and principles of information security; information security standards; relationships between business requirements and software security requirements; relationships between information security policies and software security requirements; enterprise (information system) architecture and its security extension; secure software design; secure coding; software security testing; secure software installation and configuration; current best practices in software security; laws concerning information systems; laws concerning IT professionals, code of ethics; professionalism.

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| <b>Course ID</b> | <b>Course Name</b> | <b>Credit</b> | <b>Date / Time</b> |
|------------------|--------------------|---------------|--------------------|
| 01219367         | Data Analytics     | 3             | Thu 9-12           |

**Course Description**

Basic concepts of data analytics; techniques and models; ethics and privacy issues; data mining software suite; data mining methodologies; data pre processing techniques; data regression and classification techniques; data clustering techniques; link and association discovery techniques, data mining applications; implementing analytics within an organization; un structured and complex data analytics; big data analytics; data analytics trends.

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|------------------|--------------------------|---------------|--------------------|
| 01219411         | Computer System Security | 3             | Mon 9-12           |

**Course Description**

Computer security; access control; authentication; authorization; cryptography; system safety; system backup and recovery, security policies.

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| <b>Course ID</b> | <b>Course Name</b>        | <b>Credit</b> | <b>Date / Time</b> |
|------------------|---------------------------|---------------|--------------------|
| 01219412         | Technical Writing for SKE | 3             | Fri 9-12           |

**Course Description**

General text writing; project proposal; progress and final report; result documentary; summary; critique; research paper; literature review; bibliography; software tools for editing and submission systems; writing brainstorm; idea organization; outlining; editing and proof reading; peer review; rewriting; feedback conference between teacher and student.

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| <b>Course ID</b> | <b>Course Name</b>                  | <b>Credit</b> | <b>Date / Time</b> |
|------------------|-------------------------------------|---------------|--------------------|
| 01219449         | Principles of Software Architecture | 3             | Tue 10–12          |

**Course Description**

Software architecture process; software quality attributes; software architecture documentation; model driven architecture; service oriented architecture; architectural design patterns; concurrent and networked object patterns; enterprise system patterns; internet based system patterns.

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| <b>Course ID</b> | <b>Course Name</b>                       | <b>Credit</b> | <b>Date / Time</b> |
|------------------|--|---------------|--------------------|
| 01219494         | Selected Topics in Knowledge Engineering | 3             | Fri 13-16          |

**Course Description**

Selected topics in knowledge engineering at the bachelor's degree level; topics are subject to change each semester.

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| <b>Course ID</b> | <b>Course Name</b>                      | <b>Credit</b> | <b>Date / Time</b>    |
|------------------|---|---------------|-----------------------|
| 01219496         | Selected Topics in Software Engineering | 3             | Thu / Fri<br>16–17.30 |

**Course Description**

Selected topics in software engineering at the bachelor's degree level; topics are subject to change each semester.