

**DEPARTMENT OF COMPUTER ENGINEERING  
2019-2020 ACADEMIC YEAR MSC CURRICULUM (w THESIS)**

**1st Semester**

Code	Course Name	Credits	ECTS
UFND 5500	Research Methods and Ethics	3 - 0 - 3	8
COMP 5506	Advanced Information Theory	3 - 0 - 3	8
MATH xxxx	Restricted Elective Course	3 - 0 - 3	8
COMP xxxx	Elective Course	3 - 0 - 3	8
<b>Total Credits</b>			<b>32</b>

**2nd Semester**

Code	Course Name	Credits	ECTS
COMP xxxx	Elective Course	3 - 0 - 3	8
XXXX xxxx	Elective Course	3 - 0 - 3	8
XXXX xxxx	Elective Course	3 - 0 - 3	8
COMP 5590	Seminar	0	4
<b>Total Credits</b>			<b>28</b>

**3rd Semester**

Code	Course Name	Credits	ECTS
COMP 5599	Thesis	0	30
<b>Total Credits</b>			<b>30</b>

**4th Semester**

Code	Course Name	Credits	ECTS
COMP 5599	Thesis	0	30
<b>Total Credits</b>			<b>30</b>

**Compulsory Courses**

Code	Course Name	Credits	ECTS
COMP 5506	Advanced Information Theory	3 - 0 - 3	8
UFND 5500	Research Methods and Ethics	3 - 0 - 3	8
COMP 5590	Seminar	0	4
COMP 5599	Thesis	0	30

**Restricted Elective Courses**

Code	Course Name	Credits	ECTS
MATH 5539	Probability Theory and Stochastic Process	3 - 0 - 3	8
MATH 5540	Introductory Statistical Analysis & Data Mining	3 - 0 - 3	8
MATH 5541	Advanced Linear Algebra with Applications	3 - 0 - 3	8
MATH 5542	Optimization	3 - 0 - 3	8
MATH 5543	Numerical Methods	3 - 0 - 3	8

**Elective Courses**

Code	Course Name	Credits	ECTS
COMP 5501	Advanced Database Systems	3 - 0 - 3	8
COMP 5502	Algorithm Analysis and Complexity Theory	3 - 0 - 3	8
COMP 5503	Spatial Semantic Web	3 - 0 - 3	8
COMP 5504	Cyber Security	3 - 0 - 3	8
COMP 5505	Advanced Computer Networks	3 - 0 - 3	8
COMP 5508	Compiler Design	3 - 0 - 3	8

COMP 5509	Programming Paradigms	3 - 0 - 3	8
COMP 5518	Biometrics	3 - 0 - 3	8
COMP 5519	Advanced Operating Systems	3 - 0 - 3	8
COMP 5525	Natural Language Processing	3 - 0 - 3	8
COMP 5526	Evolutionary Computation	3 - 0 - 3	8
COMP 5528	Ontology Engineering	3 - 0 - 3	8
COMP 5529	Advanced Artificial Intelligence	3 - 0 - 3	8
COMP 5532	Logic Programming	3 - 0 - 3	8
COMP 5533	Data Mining	3 - 0 - 3	8
COMP 5534	Wireless Sensor and Ad-hoc Networks	3 - 0 - 3	8
COMP 5540	Spatial Decision Support Systems	3 - 0 - 3	8
COMP 5542	Data Integration	3 - 0 - 3	8
COMP 5543	Metaheuristic Optimization Algorithms	3 - 0 - 3	8
COMP 5544	Formal Methods		
COMP 5548	Advanced Network Security	3 - 0 - 3	8
COMP 5550	Computer Algebra	3 - 0 - 3	8
COMP 5551	Probability and Stochastic Processes for Engineers	3 - 0 - 3	8
COMP 5552	Computational Number Theory	3 - 0 - 3	8
COMP 5554	Cryptography	3 - 0 - 3	8
COMP 5556	Cyber Warfare	3 - 0 - 3	8
COMP 5570	Neural Networks for Biomedical Applications	3 - 0 - 3	8
COMP 5581	Computational Relativity I: Special Theory of Relativity	3 - 0 - 3	8
COMP 5584	Physically Based Modeling And Simulation	3 - 0 - 3	8
COMP 5585	Internet of Things	3 - 0 - 3	8
COMP 5602	Advanced Theory of Computation	3 - 0 - 3	8
COMP 5603	Advanced Algorithm Design	3 - 0 - 3	8
COMP 5611	Parallel Computer Architectures	3 - 0 - 3	8
COMP 5617	Advanced Parallel Programming	3 - 0 - 3	8
COMP 5627	Advanced Topics in Computer Graphics	3 - 0 - 3	8
COMP 5634	Functional Programming	3 - 0 - 3	8
COMP 5635	Computational Algebraic Number Theory	3 - 0 - 3	8
COMP 5638	Computer Forensics	3 - 0 - 3	8
COMP 5648	Machine Learning	3 - 0 - 3	8
COMP 5658	Modern Heuristics	3 - 0 - 3	8
MATH 5539	Probability Theory and Stochastic Process	3 - 0 - 3	8
MATH 5540	Introductory Statistical Analysis & Data Mining	3 - 0 - 3	8
MATH 5541	Advanced Linear Algebra with Applications	3 - 0 - 3	8
MATH 5542	Optimization	3 - 0 - 3	8
MATH 5543	Numerical Methods	3 - 0 - 3	8
COMP 5596	Current Topics in Computer Engineering	3 - 0 - 3	8

COMP 5500	Erasmus Student Placement	0	8
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