



GRADUATE SCHOOL OF NATURAL and APPLIED SCIENCES

DEPARTMENT OF COMPUTER ENGINEERING

DEPARTMENT OF COMPUTER ENGINEERING 2019-2020 ACADEMIC YEAR MSC CURRICULUM (w/o 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 |
| Total Credits | | | 32 |

2nd Semester

| Code | Course Name | Credits | ECTS |
|----------------------|-----------------|-----------|-----------|
| COMP xxxx | Elective Course | 3 - 0 - 3 | 8 |
| COMP xxxx | Elective Course | 3 - 0 - 3 | 8 |
| XXXX xxxx | Elective Course | 3 - 0 - 3 | 8 |
| XXXX xxxx | Elective Course | 3 - 0 - 3 | 8 |
| Total Credits | | | 32 |

3rd Semester

| Code | Course Name | Credits | ECTS |
|----------------------|-----------------|-----------|-----------|
| COMP 5598 | Term Project | 0 | 10 |
| XXXX xxxx | Elective Course | 3 - 0 - 3 | 8 |
| XXXX xxxx | Elective Course | 3 - 0 - 3 | 8 |
| Total Credits | | | 26 |

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 5598 | Term Project | 0 | 10 |

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 |

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|-----------|--|-----------|---|
| 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 |
| 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 |