# Studies Plan

# Systèmes de communication 2020-21

**Block D**

| Language | Code | Section | Teacher | Bachelor 3 l | e | p | Bachelor 4 l | e | p | Bachelor 5 l | e | p | Bachelor 6 l | e | p | Exam Session | Exam | Credit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Principles of digital communications** | | | | | | | | | | | | | | | |
| E | COM-302 | SC | Telatar | | | | | | | | | | 4h | 2h | | Sum | Written | 6 |
| | | | **Signal processing for communications** | | | | | | | | | | | | | | | |
| E | COM-303 | SC | Prandoni | | | | | | | | | | 4h | 2h | | Sum | Written | 6 |
| | | | **Stochastic models in communication** | | | | | | | | | | | | | | | |
| F | COM-300 | SC | Thiran | | | | | | | 4h | 2h | | | | | Win | Written | 6 |

**Block E**

| Language | Code | Section | Teacher | Bachelor 3 l | e | p | Bachelor 4 l | e | p | Bachelor 5 l | e | p | Bachelor 6 l | e | p | Exam Session | Exam | Credit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Algebra** | | | | | | | | | | | | | | | |
| E | MATH-310 | MA | Lachowska | | | | | | | 2h | 1h | | | | | Win | Written | 3 |
| | | | **Computer security** | | | | | | | | | | | | | | | |
| E | COM-301 | SC | González Troncoso | | | | | | | 2h | 1h | 1h | | | | Win | During the semester | 4 |

**Group I "Project"**

| Language | Code | Section | Teacher | Bachelor 3 l | e | p | Bachelor 4 l | e | p | Bachelor 5 l | e | p | Bachelor 6 l | e | p | Exam Session | Exam | Credit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Project in communication systems I** | | | | | | | | | | | | | | | |
| F | COM-307 | SC | Profs divers | | | | | | | | | 2h | | | 2h | Sum Win | During the semester | 8 |

**Group II "options"**

| Language | Code | Section | Teacher | Bachelor 3 l | e | p | Bachelor 4 l | e | p | Bachelor 5 l | e | p | Bachelor 6 l | e | p | Exam Session | Exam | Credit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Artificial intelligence** | | | | | | | | | | | | | | | |
| F | CS-330 | IN | Faltings | | | | | | | | | | 2h | 2h | | Sum | During the semester | 4 |
| | | | **Computer language processing** | | | | | | | | | | | | | | | |
| E | CS-320 | IN | Kuncak | | | | | | | 2h | 2h | 2h | | | | Win | During the semester | 6 |
| | | | **Electromagnetics I : Transmission lines and waves** | | | | | | | | | | | | | | | |
| F | EE-200 | EL | Fleury | | | | | | | 2h | 1h | | | | | Win | Written | 3 |
| | | | **Electromagnetics II : field computation** | | | | | | | | | | | | | | | |
| F | EE-201 | EL | Fleury | | | | | | | | | | 2h | 1h | | Sum | Written | 3 |
| | | | **Electronics II** | | | | | | | | | | | | | | | |
| F | EE-203(b) | EL | Zysman | | | | | | | 2h | 2h | | | | | Win | During the semester | 4 |
| | | | **Electronics III** | | | | | | | | | | | | | | | |
| F | EE-381 | EL | Zysman | | | | | | | | | | 2h | 1h | | Sum | During the semester | 3 |
| | | | **General chemistry** | | | | | | | | | | | | | | | |
| F | CH-160(b) | CGC | Terrettaz | | | | | | | 2h | 1h | | | | | Win | Written | 3 |
| | | | **Internet analytics** | | | | | | | | | | | | | | | |
| E | COM-308 | SC | Grossglauser | | | | | | | | | | 2h | 1h | 2h | Sum | Written | 5 |
| | | | **Introduction to computer graphics** | | | | | | | | | | | | | | | |
| E | CS-341 | IN | Pauly | | | | | | | | | | 2h | 1h | 2h | Sum | Written | 6 |
| | | | **Introduction to database systems** | | | | | | | | | | | | | | | |
| E | CS-322 | IN | Ailamaki Koch | | | | | | | | | | 2h | 1h | 1h | Sum | Written | 4 |
| | | | **Introduction to life sciences (for IC)** | | | | | | | | | | | | | | | |
| F | BIO-109 | SV | Zufferey | | | | | | | | | | 4h | 2h | | Sum | Written | 6 |
| | | | **Introduction to multiprocessor architecture** | | | | | | | | | | | | | | | |
| E | CS-307 | IN | Falsafi | | | | | | | 2h | | 1h | | | | Win | Written | 4 |

C : Courses, E : Exercice, P : Pratic courses, * : option courses  /  F : French courses, D : Deutsch courses, E : English Courses  /  Sum : Summer, Win : Winter

| Language | Code | Section | Teacher | Bachelor 3 l | e | p | Bachelor 4 l | e | p | Bachelor 5 l | e | p | Bachelor 6 l | e | p | Exam Session | Exam | Credit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Introduction to operating systems** | | | | | | | | | | | | | | | | | | |
| E | CS-323 | IN | Payer | | | | | | | 2h | 1h | 2h | | | | Win | Written | 5 |
| **Projet de systems-on-chip** | | | | | | | | | | | | | | | | | | |
| F | CS-309 | IN | Beuchat | | | | | | | | | | | | 3h | Sum | During the semester | 3 |
| **Quantum computation** | | | | | | | | | | | | | | | | | | |
| F | CS-308 | SC | Macris | | | | | | | | | | 3h | 1h | | Sum | Written | 4 |
| **Quantum information processing** | | | | | | | | | | | | | | | | | | |
| F | COM-309 | SC | Macris | | | | | | | 3h | 1h | | | | | Win | Written | 4 |
| **Software development project** | | | | | | | | | | | | | | | | | | |
| E | CS-306 | IN | Candea | | | | | | | | | | | | 4h | Sum | During the semester | 4 |
| **Software engineering** | | | | | | | | | | | | | | | | | | |
| E | CS-305 | IN | Candea | | | | | | | 2h | 1h | 1h | | | | Win | Written | 4 |

**Block A**

| Language | Code | Section | Teacher | Bachelor 3 l | e | p | Bachelor 4 l | e | p | Bachelor 5 l | e | p | Bachelor 6 l | e | p | Exam Session | Exam | Credit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Computer networks** | | | | | | | | | | | | | | | | | | |
| E | COM-208 | SC | Argyraki | 2h | 2h | | | | | | | | | | | Win | Written | 5 |
| **Probabilities and statistics** | | | | | | | | | | | | | | | | | | |
| E | MATH-232 | MA | Abbé | | | | 4h | 2h | | | | | | | | Sum | Written | 6 |

**Block B**

| Language | Code | Section | Teacher | Bachelor 3 l | e | p | Bachelor 4 l | e | p | Bachelor 5 l | e | p | Bachelor 6 l | e | p | Exam Session | Exam | Credit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Algorithms** | | | | | | | | | | | | | | | | | | |
| E | CS-250 | IN | Svensson | 4h | 2h | | | | | | | | | | | Win | Written | 6 |
| **Computer architecture I** | | | | | | | | | | | | | | | | | | |
| E | CS-208 | IN | Stojilovic | 2h | | 2h | | | | | | | | | | Win | Written | 4 |
| **System oriented programming** | | | | | | | | | | | | | | | | | | |
| F | CS-207 | IN | Chappelier | | | | 1h | 2h | | | | | | | | Sum | Written | 3 |
| **Theory of computation** | | | | | | | | | | | | | | | | | | |
| E | CS-251 | IN | Göös | | | | 2h | 2h | | | | | | | | Sum | Written | 4 |

**Block C**

| Language | Code | Section | Teacher | Bachelor 3 l | e | p | Bachelor 4 l | e | p | Bachelor 5 l | e | p | Bachelor 6 l | e | p | Exam Session | Exam | Credit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analysis III** | | | | | | | | | | | | | | | | | | |
| F | MATH-203(c) | MA | Strütt | 2h | 2h | | | | | | | | | | | Win | Written | 4 |
| **Analysis IV** | | | | | | | | | | | | | | | | | | |
| F | MATH-207(d) | MA | Strütt | | | | 2h | 2h | | | | | | | | Sum | Written | 4 |
| **General physics: electromagnetism** | | | | | | | | | | | | | | | | | | |
| E | PHYS-114 | PH | Dil | 2h | 2h | | | | | | | | | | | Win | Written | 4 |
| **Signals and systems (for EL&IC)** | | | | | | | | | | | | | | | | | | |
| E | EE-205 | SC | Shkel | | | | 2h | 2h | | | | | | | | Sum | Written | 4 |

**Group "Option courses"**

| Language | Code | Section | Teacher | Bachelor 3 l | e | p | Bachelor 4 l | e | p | Bachelor 5 l | e | p | Bachelor 6 l | e | p | Exam Session | Exam | Credit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Computer architecture II** | | | | | | | | | | | | | | | | | | |
| E | CS-209 | IN | Ienne | | | | 2h | | 2h | | | | | | | Sum | Written | 4 |
| **Electronics I** | | | | | | | | | | | | | | | | | | |
| F | EE-202(b) | EL | Zysman | 2h | 1h | | | | | | | | | | | Win | During the semester | 4 |
| **Functional programming** | | | | | | | | | | | | | | | | | | |
| E | CS-210 | IN | Kuncak Odersky | 2h | 2h | | | | | | | | | | | Win | Written | 5 |
| **Human computer interaction** | | | | | | | | | | | | | | | | | | |
| F | CS-213 | IN | | | | | 2h | | 2h | | | | | | | Sum | Written | 5 |
| **Introduction to machine learning (BA3)** | | | | | | | | | | | | | | | | | | |
| E | CS-233(a) | IN | Salzmann | 2h | 2h | | | | | | | | | | | Win | Written | 4 |
| **Introduction to machine learning (BA4)** | | | | | | | | | | | | | | | | | | |
| E | CS-233(b) | IN | Fua | | | | 2h | 2h | | | | | | | | Sum | Written | 4 |

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| Language | Code | Section | Teacher | C | E | P | Exam Session | Exam | Credit |
|---|---|---|---|---|---|---|---|---|---|
| | **Numerical methods for visual computing and ML** | | | | | | | | |
| E | CS-328 | IN | Jakob | 2h | 1h | | Win | Written | 4 |
| | **Parallelism and concurrency** | | | | | | | | |
| E | CS-206 | IN | Kuncak Odersky | 1h | 1h | 2h | Sum | During the semester | 4 |
| | **System programming project** | | | | | | | | |
| F | CS-212 | IN | Bugnion Chappelier | | | 2h | Sum | During the semester | 2 |
| | **Technologies of societal self-organization** | | | | | | | | |
| E | CS-234 | IN | Ford | 2h | 1h | 2h | Win | Written | 5 |

**Transverse block HSS**

| | *Courses* | | | *Exam Session* | *Exam* | *Credit* |
|---|---|---|---|---|---|---|
| *Language* | *Code* | *Section* | *Teacher* | | | |
| | **SHS : Bachelor cycle BA6** | | | | | |
| F | | SHS | | | | 2 |
| | **HSS : Bachelor cycle BA5** | | | | | |
| F | | SHS | | | | 2 |
| | **HSS : Bachelor cycle BA4** | | | | | |
| F | | SHS | | | | 2 |
| | **HSS : Bachelor cycle BA3** | | | | | |
| F | | SHS | | | | 2 |

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