

## Robotics and Intelligent Systems (180 CP)

|                                | CHOICE / CORE / CAREER <span>3 x 45 = 135 CP</span>                               |                                                            |                                             |                                                                                    |                                                              | CONSTRUCTOR Track <span>45 CP</span>                               |
|--------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------|
| 3 <sup>rd</sup> Year<br>CAREER | Bachelor Thesis / Seminar<br>(research or industry) <span>m, 15 CP</span>         |                                                            |                                             | Summer Internship / Start-Up<br>(after 2 <sup>nd</sup> year) <span>m, 15 CP</span> |                                                              | New Skills<br>modules                                              |
|                                | Specialization I<br><span>me, 5 CP</span>                                         | Specialization II<br><span>me, 5 CP</span>                 | Specialization III<br><span>me, 5 CP</span> |                                                                                    |                                                              |                                                                    |
| 2 <sup>nd</sup> Year<br>CORE   | Artificial Intelligence<br><span>m, 5 CP</span>                                   | RIS Lab<br><span>me, 5 CP</span>                           | Automation<br><span>me, 5 CP</span>         | Machine Learning<br><span>m, 5 CP</span>                                           | RIS Project<br><span>m, 5 CP</span>                          | Numerical Methods OR<br>Discrete Mathematics <span>me, 5 CP</span> |
|                                | Robotics<br><span>m, 5 CP</span>                                                  |                                                            | Embedded Systems<br><span>me, 5 CP</span>   | Control Systems<br><span>me, 5 CP</span>                                           | Computer Vision<br><span>me, 5 CP</span>                     |                                                                    |
| 1 <sup>st</sup> Year<br>CHOICE | Mathematical and Physical<br>Foundations of Robotics II<br><span>m, 7.5 CP</span> | Algorithms and Data Structures<br><span>m, 7.5 CP</span>   |                                             | Digital Systems and Computer<br>Architecture <span>m, 7.5 CP</span>                |                                                              | Elements of Calculus<br><span>me, 5 CP</span>                      |
|                                | Mathematical and Physical<br>Foundations of Robotics I<br><span>m, 7.5 CP</span>  | General Electrical Engineering I<br><span>m, 7.5 CP</span> |                                             | Programming in C and C++<br><span>m, 7.5 CP</span>                                 |                                                              | Elements of Linear<br>Algebra <span>me, 5 CP</span>                |
|                                | Minor Option in RIS (30 CP)                                                       |                                                            | CP: Credit Points                           |                                                                                    | Study abroad Option in 5 <sup>th</sup><br>Semester (22.5 CP) |                                                                    |
|                                |                                                                                   |                                                            | m: mandatory                                |                                                                                    |                                                              |                                                                    |
|                                |                                                                                   |                                                            | me: mandatory elective                      |                                                                                    |                                                              |                                                                    |