

STUDY PROGRAMME CURRICULUM COMPUTER AND INFORMATION SCIENCE

2023/2024

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|---------------------------------|---|
| Name of study programme | Computer and information science |
| Programme characteristics | |
| Type | academic |
| Cycle | bachelor |
| University of Ljubljana members | • Faculty of Computer and Information Science, Večna pot 113, 1000 Ljubljana, Slovenija |

Year 1

| | University Course Code | Course title | Lecturers | Contact hours | | | | | Individual student work | Total hours | ECTS | Semesters | Elective |
|-------|------------------------|-------------------------------------|---------------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | | | | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | | | | | |
| 1. | 0153574 | Programming 1 | Luka Fürst | 45 | | 30 | | | 105 | 180 | 6 | 1st semester | no |
| 2. | 0039582 | Calculus | Žiga Virk | 45 | | 30 | | | 105 | 180 | 6 | 1st semester | no |
| 3. | 0039577 | Discrete Structures | Gašper Fijavž | 45 | | 30 | | | 105 | 180 | 6 | 1st semester | no |
| 4. | 0039580 | Introduction to Digital Circuits | Nikolaj Zimic | 45 | | 30 | | | 105 | 180 | 6 | 1st semester | no |
| 5. | 0039578 | Physics | Borut Paul Kerševan | 45 | | 30 | | | 105 | 180 | 6 | 1st semester | no |
| 6. | 0039584 | Programming 2 | Boštjan Slivnik | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | no |
| 7. | 0039579 | Linear Algebra | Polona Oblak | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | no |
| 8. | 0039576 | Computer Systems Architecture | Branko Šter | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | no |
| 9. | 0039585 | Computer Communications | Zoran Bosnić | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | no |
| 10. | 0039581 | Introduction to Information Systems | Dejan Lavbič | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | no |
| Total | | | | 450 | 0 | 300 | 0 | 0 | 1050 | 1800 | 60 | | |

Year 2

| | | | | Contact hours | | | | | | | | | |
|-------|------------------------|--|--------------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0039586 | Algorithms and data structures 1 | Igor Kononenko | 45 | | 30 | | | 105 | 180 | 6 | 1st semester | no |
| 2. | 0039591 | Basics of Databases | Marko Bajec | 45 | | 30 | | | 105 | 180 | 6 | 1st semester | no |
| 3. | 0039593 | Probability and Statistics | Aleksandar Jurišić | 45 | 10 | 20 | | | 105 | 180 | 6 | 1st semester | no |
| 4. | 0039590 | Computer Systems Organisation | Patricio Bulić | 45 | | 30 | | | 105 | 180 | 6 | 1st semester | no |
| 5. | 0039588 | Computability and Computational Complexity | Borut Robič | 45 | | 30 | | | 105 | 180 | 6 | 1st semester | no |
| 6. | 0039592 | Theory of Informations and Systems | Uroš Lotrič | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | no |
| 7. | 0039587 | Algorithms and data structures 2 | Borut Robič | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | no |
| 8. | 0039589 | Operating Systems | Jurij Mihelič | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | no |
| 9. | 0069529 | General elective course | | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | yes |
| 10. | 0100845 | Specialist elective course | | 45 | | 30 | | | 105 | 180 | 6 | | yes |
| Total | | | | 450 | 10 | 290 | 0 | 0 | 1050 | 1800 | 60 | | |

Year 2, Programme related electives

| | | | | Contact hours | | | | | | | | | |
|----|------------------------|------------------------|-----------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0039605 | Mathematical Modelling | Žiga Virk | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | yes |

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|-------|---------|-------------------------------------|--------------|-----|---|----|---|---|-----|-----|----|--------------|-----|
| 2. | 0039606 | Principles of Programming Languages | Andrej Bauer | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | yes |
| 3. | 0039607 | Computer Technologies | Rok Žitko | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | yes |
| Total | | | | 135 | 0 | 90 | 0 | 0 | 315 | 540 | 18 | | |

Discipline related electives 2. and 3. study year

| | | | | Contact hours | | | | | | | | | |
|-------|------------------------|--|------------------------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|----------------------------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0039594 | English-level A | Nina Bishop Bostič | 30 | | 15 | | | 45 | 90 | 3 | 2nd semester | yes |
| 2. | 0039595 | English-level B | Nina Bishop Bostič | 30 | | 15 | | | 45 | 90 | 3 | 1st semester | yes |
| 3. | 0039596 | English-level C | Nina Bishop Bostič | 30 | | 15 | | | 45 | 90 | 3 | 2nd semester | yes |
| 4. | 0039597 | Topics in Computer and Information Science | | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | yes |
| 5. | 0039601 | Computer Science in Practice I | Gašper Fijavž | 5 | | | | 40 | 45 | 90 | 3 | 1st semester, 2nd semester | yes |
| 6. | 0039602 | Computer Science in Practice II | Gašper Fijavž | 5 | | | | 40 | 45 | 90 | 3 | 1st semester, 2nd semester | yes |
| 7. | 0039603 | Computer Science Skills | Tomaž Dobravec, Zoran Bosnić | 15 | | 45 | | | 30 | 90 | 3 | 1st semester, 2nd semester | yes |
| 8. | 0568792 | Economics and Entrepreneurship | Tomaž Hovelja | 45 | 10 | 20 | | | 105 | 180 | 6 | 1st semester | yes |
| Total | | | | 205 | 10 | 140 | 0 | 80 | 465 | 900 | 30 | | |

Year 3

| | | | | Contact hours | | | | | | | | | |
|--|------------------------|--------------|-----------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|-----------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |

| | | | | | | | | | | | | | |
|-------|---------|---|--------------|-----|----|-----|---|---|------|------|----|--------------|-----|
| 1. | 0039610 | Introduction to Artificial Intelligence | Zoran Bosnić | 45 | | 30 | | | 105 | 180 | 6 | 1st semester | no |
| 2. | 0100850 | Modulski izbirni predmet 1/4 | | 45 | | 30 | | | 105 | 180 | 6 | 1st semester | yes |
| 3. | 0100851 | Modulski izbirni predmet 2/4 | | 45 | | 30 | | | 105 | 180 | 6 | 1st semester | yes |
| 4. | 0100853 | Modulski izbirni predmet 3/4 | | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | yes |
| 5. | 0100854 | Modulski izbirni predmet 4/4 | | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | yes |
| 6. | 0069536 | Software Engineering | Dejan Lavbič | 45 | 10 | 20 | | | 105 | 180 | 6 | 2nd semester | no |
| 7. | 0100889 | Strokovno izbirni predmet (moduli + seznam) | | 45 | | 30 | | | 105 | 180 | 6 | | yes |
| 8. | 0100890 | Strokovno izbirni predmet (seznam) | | 45 | | 30 | | | 105 | 180 | 6 | | yes |
| 9. | 0100845 | Specialist elective course | | 45 | | 30 | | | 105 | 180 | 6 | | yes |
| 10. | 0039608 | Diploma seminar | Franc Solina | 45 | 10 | 5 | | | 120 | 180 | 6 | 2nd semester | no |
| Total | | | | 450 | 20 | 265 | 0 | 0 | 1065 | 1800 | 60 | | |

Year 3, Informatics (module)

| | | | | Contact hours | | | | | | | | | |
|----|------------------------|---------------------------------|--------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0039614 | Electronic Business | Denis Trček | 45 | | 30 | | | 105 | 180 | 6 | 1st semester | yes |
| 2. | 0039622 | Data Management Technologies | Matjaž Kukar | 45 | 10 | 20 | | | 105 | 180 | 6 | 1st semester | yes |
| 3. | 0100860 | Information Systems Development | Marko Bajec | 45 | 20 | 10 | | | 105 | 180 | 6 | 2nd semester | yes |

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|-------|---------|-------------------------------------|------------|-----|----|----|---|---|-----|-----|----|--------------|-----|
| 4. | 0039620 | Informatics Planning and Management | Rok Rupnik | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | yes |
| Total | | | | 180 | 30 | 90 | 0 | 0 | 420 | 720 | 24 | | |

Year 3, Software (module)

| | | | | Contact hours | | | | | | | | | |
|-------|------------------------|--|----------------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0039629 | Software Development Processes | Branko Matjaž Jurič | 45 | 10 | 20 | | | 105 | 180 | 6 | 1st semester | yes |
| 2. | 0039613 | System Software | Tomaž Dobravec | 45 | 10 | 20 | | | 105 | 180 | 6 | 1st semester | yes |
| 3. | 0100872 | Analysis of Algorithms and Heuristic Problem Solving | Marko Robnik Šikonja | 45 | 10 | 20 | | | 105 | 180 | 6 | 2nd semester | yes |
| 4. | 0039611 | Compilers | Boštjan Slivnik | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | yes |
| Total | | | | 180 | 30 | 90 | 0 | 0 | 420 | 720 | 24 | | |

Year 3, Computer systems and networks (module)

| | | | | Contact hours | | | | | | | | | |
|-------|------------------------|------------------------------|----------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0039625 | Computer Networks Modeling | Miha Mraz | 45 | 10 | 20 | | | 105 | 180 | 6 | 1st semester | yes |
| 2. | 0039627 | Distributed Systems Computer | Uroš Lotrič | 45 | 10 | 20 | | | 105 | 180 | 6 | 1st semester | yes |
| 3. | 0100867 | Communication Protocols | Mojca Ciglarič | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | yes |
| 4. | 0039623 | Mobile and Wireless Networks | Nikolaj Zimic | 45 | 10 | 20 | | | 105 | 180 | 6 | 2nd semester | yes |
| Total | | | | 180 | 30 | 90 | 0 | 0 | 420 | 720 | 24 | | |

Year 3, Artificial intelligence (module)

| | | | | Contact hours | | | | | | | | | |
|-------|------------------------|------------------------------------|----------------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0039643 | Intelligent Systems | Marko Robnik Šikonja | 45 | 6 | 24 | | | 105 | 180 | 6 | 1st semester | yes |
| 2. | 0039645 | Machine Perception | Matej Kristan | 45 | 10 | 20 | | | 105 | 180 | 6 | 1st semester | yes |
| 3. | 0039644 | Development of Intelligent Systems | Danijel Skočaj | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | yes |
| 4. | 0100896 | Introduction to Data Mining | Blaž Zupan | 45 | 20 | 10 | | | 105 | 180 | 6 | 2nd semester | yes |
| Total | | | | 180 | 36 | 84 | 0 | 0 | 420 | 720 | 24 | | |

Year 3, Media technologies (module)

| | | | | Contact hours | | | | | | | | | |
|-------|------------------------|---------------------------------------|-------------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0039619 | Computer Graphics and Game Technology | Matija Marolt | 45 | 10 | 20 | | | 105 | 180 | 6 | 1st semester | yes |
| 2. | 0039617 | Multimedia Systems | Luka Čehovin Zajc | 45 | 10 | 20 | | | 105 | 180 | 6 | 1st semester | yes |
| 3. | 0039618 | Introduction to Graphics Design | Narvika Bovcon | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | yes |
| 4. | 0069537 | Platform Based Development | Veljko Pejović | 45 | | 30 | | | 105 | 180 | 6 | 2nd semester | yes |
| Total | | | | 180 | 20 | 100 | 0 | 0 | 420 | 720 | 24 | | |

Year 3, Programme related electives

| | | | | Contact hours | | | | | | | | | |
|--|------------------------|--------------|-----------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|-----------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |

| | | | | | | | | | | | | | |
|-------|---------|--|--------------------------|-----|----|----|---|---|-----|-----|----|--------------|-----|
| 1. | 0039630 | Web Programming | Dejan Lavbič | 45 | 20 | 10 | | | 105 | 180 | 6 | 1st semester | yes |
| 2. | 0070351 | Digital Design | Nejc Ilc, Patricio Bulić | 45 | 10 | 20 | | | 105 | 180 | 6 | 1st semester | yes |
| 3. | 0171404 | Organisation and Management | Tomaž Hovelja | 45 | 10 | 20 | | | 105 | 180 | 6 | 2nd semester | yes |
| 4. | 0039628 | Computer Systems Reliability and Performance | Miha Mraz | 45 | 20 | 10 | | | 105 | 180 | 6 | 2nd semester | yes |
| Total | | | | 180 | 60 | 60 | 0 | 0 | 420 | 720 | 24 | | |