

Recommended pass through the study plan

Name of the pass: Information and Communication Technologies 20/21, 21/22, 22/23

Faculty/Institute/Others:

Department:

Pass through the study plan: Information and Communication Technologies

Branch of study guaranteed by the department: Welcome page

Guarantor of the study branch:

Program of study: Informatics and Cybernetics in Health Care

Type of study: Bachelor full-time

Note on the pass: Informaci o p edepsaném minimálním po tu PV p edm t pro konkrétní jednotlivé semestry najdete v odpovídajícím studijním plánu specializace.

Coding of roles of courses and groups of courses:

P - compulsory courses of the program, PO - compulsory courses of the branch, Z - compulsory courses, S - compulsory elective courses, PV - compulsory elective courses, F - elective specialized courses, V - elective courses, T - physical training courses

Coding of ways of completion of courses (KZ/Z/ZK) and coding of semesters (Z/L):

KZ - graded assesment, Z - assesment, ZK - examination, L - summer semester, Z - winter semester

Number of semester: 1

| Code | Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) <i>Tutors, authors and guarantors (gar.)</i> | Completion | Credits | Scope | Semester | Role |
|----------|--|------------|---------|-------|----------|------|
| F7PBKALP | Algorithmization and Programming <i>Pavel Smr ka, Tomáš Funda, Tomáš Veselý, Lenka Hanáková Tomáš Funda Pavel Smr ka (Gar.)</i> | Z,ZK | 6 | 2P+2C | Z | z |
| F7PBKAJ1 | English I. <i>Eva Maxová, Eva Moty ková Eva Moty ková Eva Moty ková (Gar.)</i> | KZ | 2 | 2S | Z | z |
| 17BOZP | Occupational Safety and Health, Fire Protection and First Aid <i>Petr Kudrna Petr Kudrna Petr Kudrna (Gar.)</i> | Z | 0 | 1P | Z | z |
| F7PBKKT | Communication Technology <i>Tomáš Funda, Tomáš Veselý, Karel Hána, Martin Vít zník, Markéta Janatová, Aneta Buchtelová, Kate ina Pilátová Tomáš Funda Karel Hána (Gar.)</i> | Z,ZK | 3 | 1P+1C | Z | z |
| F7PBKLAD | Linear Algebra and Differential Calculus <i>Ji í Neustupa, Jana Urzová Jana Urzová (Gar.)</i> | Z,ZK | 6 | 2P+4C | Z | z |
| F7PBKLG | Logic <i>Dagmar Brechlerová Dagmar Brechlerová Dagmar Brechlerová (Gar.)</i> | Z,ZK | 5 | 2P+2C | Z | z |
| F7PBKMAZ | Management and Administration in Health Care <i>Ji í erný Ji í erný Ji í erný (Gar.)</i> | KZ | 1 | 1P | Z | z |
| F7PBKPND | Presentation Tools and Skills <i>Anna Hor áková Anna Hor áková Anna Hor áková (Gar.)</i> | KZ | 2 | 1P+1C | Z | z |
| F7PBKPR1 | Project I. <i>Pavel Smr ka, Karel Hána, Radim Kliment, Jan Kauler, Radim Kliment, David Jirsa, Radim Krupi ka, Jan Mužík, Filip Hrdlí ka, Karel Hána Karel Hána (Gar.)</i> | KZ | 5 | 1S | Z | z |

Number of semester: 2

| Code | Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) <i>Tutors, authors and guarantors (gar.)</i> | Completion | Credits | Scope | Semester | Role |
|----------|--|------------|---------|-------|----------|------|
| F7PBKAJ2 | English II. <i>Eva Moty ková Eva Moty ková (Gar.)</i> | KZ | 2 | 2S | L | z |
| F7PBKDDS | Data and Data Structures <i>Jan Kauler, Radim Krupi ka Radim Krupi ka Radim Krupi ka (Gar.)</i> | Z,ZK | 5 | 2P+2C | L | z |
| F7PBKITP | Integral Calculus <i>Jana Urzová Jana Urzová Jana Urzová (Gar.)</i> | Z,ZK | 6 | 2P+4C | L | z |
| F7PBKML | Matlab <i>Michal Reimer</i> | KZ | 3 | 2C | L | z |
| F7PBKOS | Operating Systems <i>Jan Mužík Jan Mužík Jan Mužík (Gar.)</i> | Z,ZK | 4 | 1P+2C | L | z |
| F7PBKPPP | Programming Tools <i>Pavel Smr ka, Tomáš Funda, Radim Kliment, Michaela Gaea olakovová Pavel Smr ka Pavel Smr ka (Gar.)</i> | KZ | 2 | 2C | L | z |

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|----------|--|----|---|----|---|---|
| F7PBKPR2 | Project II. Pavel Smr ka, Karel Hána, Dagmar Brechlerová, Radim Kliment, Jan Kauler, Jan Mužík, Christiane Malá, Tomáš Kraj a, Ondřej Klempí, Karel Hána Karel Hána (Gar.) | KZ | 5 | 1S | L | Z |
| F7PBKTVR | Telemedicine and Virtual Reality Pavel Smr ka, Karel Hána, Markéta Janatová, Radim Kliment, Vít Janovský, Jiří Brada Karel Hána Karel Hána (Gar.) | KZ | 3 | 2C | L | Z |

Number of semester: 3

| Code | Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.) | Completion | Credits | Scope | Semester | Role |
|------------|---|------------|---------|-------|----------|------|
| F7PBKAJ3 | English III. Eva Maxová Eva Maxová Eva Maxová (Gar.) | KZ | 2 | 2S | Z | Z |
| F7PBKDS | Database Systems Tomáš Kraj a, Slávka Ne uková Slávka Ne uková Slávka Ne uková (Gar.) | Z,ZK | 4 | 2P+2C | Z | Z |
| F7PBKISZ | Information Systems in Health Care Dagmar Brechlerová, Anna Horáková, David Jirsa, Tomáš Kraj a, Zoltán Szabó, Petr Šmíd Anna Horáková Zoltán Szabó (Gar.) | Z,ZK | 4 | 2P+2C | Z | Z |
| F7PBKOOP | Object Oriented Programming Radim Krupí ka, Tomáš Kraj a Radim Krupí ka Radim Krupí ka (Gar.) | Z,ZK | 3 | 1P+2C | Z | Z |
| F7PBKPR3 | Project II. Pavel Smr ka, Karel Hána, Dagmar Brechlerová, Radim Krupí ka, Christiane Malá, Tomáš Kraj a, Michal Reimer, Jiří Millek Karel Hána Karel Hána (Gar.) | KZ | 5 | 1S | Z | Z |
| F7PBKUSS-C | Introduction to Systems and Signals Jan Kauler | Z,ZK | 5 | 2P+2C | Z | Z |
| F7PBKZAT-C | Analogue Techniques Fundamentals Karel Hána | Z,ZK | 5 | 2P+2C | Z | Z |
| F7PBKZTM1 | Fundamentals of Theoretical Medicine I. | Z,ZK | 2 | 2P | Z | Z |

Number of semester: 4

| Code | Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.) | Completion | Credits | Scope | Semester | Role |
|------------|---|------------|---------|-------|----------|------|
| F7PBKAZC-C | Biosignal Algorithms in C Language Pavel Smr ka | Z,ZK | 5 | 2P+2C | L | Z |
| F7PBKAJ4 | English IV. Eva Maxová Eva Motyková Eva Motyková (Gar.) | KZ | 2 | 2S | L | Z |
| F7PBKPTD-C | Advanced Technologies in Diabetology Jan Mužík | KZ | 3 | 2P | L | Z |
| F7PBKPR4 | Project IV. Pavel Smr ka, Karel Hána, Dagmar Brechlerová, Radim Krupí ka, Jan Mužík, Ján Hýbl, Christiane Malá, Tomáš Kraj a, Michal Reimer, Karel Hána Karel Hána (Gar.) | KZ | 5 | 1S | L | Z |
| F7PBKTWA | Web Application Development David Jirsa David Jirsa | Z,ZK | 3 | 1P+2C | L | Z |
| F7PBKZCT-C | Digital Technology Fundamentals Karel Hána | Z,ZK | 6 | 2P+2C | L | Z |
| F7PBKZSI | Software Engineering Fundamentals Jan Mužík Jan Mužík Jan Mužík (Gar.) | Z,ZK | 4 | 2P+2C | L | Z |
| F7PBKZTM2 | Fundamentals of Theoretical Medicine II. Taána Jarošíková, Jozef Rosina Taána Jarošíková Taána Jarošíková (Gar.) | ZK | 2 | 2P | L | Z |

Number of semester: 5

| Code | Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.) | Completion | Credits | Scope | Semester | Role |
|------------|---|------------|---------|-------|----------|------|
| F7PBKBPD | Data Transmission and Processing Security Dagmar Brechlerová, Martin Staněk Martin Staněk Dagmar Brechlerová (Gar.) | Z,ZK | 4 | 2P+2C | Z | Z |
| F7PBKMTB-C | Microprocessor Technology in Biomedicine Pavel Smr ka Pavel Smr ka Pavel Smr ka (Gar.) | KZ | 5 | 1P+3C | Z | Z |
| F7PBKNVM-C | Design and Development of Mobile and Embedded Applications Radim Kliment Radim Kliment | KZ | 4 | 1P+2C | Z | Z |
| F7PBKPPN | Health Legislation and Standards Peter Kneppo Peter Kneppo (Gar.) | KZ | 2 | 1P+1C | Z | Z |

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|----------|--|------|---|-------|---|---|
| F7PBKPR5 | Project V. Pavel Smr ka, Karel Hána, Dagmar Brechlerová, David Jirsa, Jan Mužík, Christiane Malá, Tomáš Kraj a, Michal Reimer, Martin Bejtík, Karel Hána Karel Hána (Gar.) | KZ | 6 | 1S | Z | z |
| F7PBKSFI | Software Engineering Jan Mužík, Pavel Trnka Jan Mužík Jan Mužík (Gar.) | Z,ZK | 4 | 2P+2C | Z | z |
| F7PBKUIE | Artificial Intelligence and Expert Systems Radim Krupí ka Radim Krupí ka Radim Krupí ka (Gar.) | Z,ZK | 5 | 2P+2C | Z | z |

Number of semester: 6

| Code | Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.) | Completion | Credits | Scope | Semester | Role |
|------------|---|------------|---------|-------|----------|------|
| F7PBKATR | Assistive Technology and Robotics in Medicine Jan Kauler Jan Kauler Jan Kauler (Gar.) | Z,ZK | 5 | 2P+2C | L | z |
| F7PBKBP | Bachelor Thesis Karel Hána, Dagmar Brechlerová, Radim Krupí ka, Jan Mužík, Christiane Malá, Michal Reimer, Jan Broulím, Patrik Pluhovský, Pavla Suchánková Karel Hána Karel Hána (Gar.) | Z | 12 | 2S | L | z |
| F7PBKEHT-C | E-Health and Telemedicine Pavel Smr ka, Karel Hána, Michal Huptych Michal Huptych Lenka Lhotská (Gar.) | Z,ZK | 7 | 2P+4C | L | z |
| F7PBKPPN-C | Computer-aided design, development and production of electronic devices Martin Vít zník Martin Vít zník Martin Vít zník (Gar.) | KZ | 3 | 2C | L | z |
| F7PBKSBP | Bachelor Thesis Seminar Karel Hána, Radim Krupí ka, Christiane Malá Radim Krupí ka Radim Krupí ka (Gar.) | Z | 3 | 2S | L | z |

List of groups of courses of this pass with the complete content of members of individual groups

List of courses of this pass:

| Code | Name of the course | Completion | Credits |
|--|---|------------|---------|
| 17BOZP | Occupational Safety and Health, Fire Protection and First Aid | Z | 0 |
| F7PBKAJ1 | English I. | KZ | 2 |
| F7PBKAJ2 | English II. | KZ | 2 |
| F7PBKAJ3 | English III. | KZ | 2 |
| F7PBKAJ4 | English IV. | KZ | 2 |
| F7PBKALP | Algorithmization and Programming | Z,ZK | 6 |
| F7PBKATR | Assistive Technology and Robotics in Medicine | Z,ZK | 5 |
| F7PBKAZC-C | Biosignal Algorithms in C Language | Z,ZK | 5 |
| F7PBKBP | Bachelor Thesis | Z | 12 |
| F7PBKBPD | Data Transmission and Processing Security | Z,ZK | 4 |
| F7PBKDDS | Data and Data Structures | Z,ZK | 5 |
| F7PBKDS | Database Systems | Z,ZK | 4 |
| F7PBKEHT-C | E-Health and Telemedicine | Z,ZK | 7 |
| F7PBKISZ | Information Systems in Health Care | Z,ZK | 4 |
| F7PBKITP | Integral Calculus | Z,ZK | 6 |
| F7PBKKT | Communication Technology | Z,ZK | 3 |
| <p>Význam a praktické příklady nasazení informačních a komunikačních technologií ve zdravotnictví. Historie, základní struktura a rozdělení počítače, motherboard, sběrnice, BIOS, autotest, procesor, operační paměť, klasické a SSD pevné disky, paměťové karty, zvukové karty, grafické karty, monitory, klávesnice, myši, tiskárny a skenery, univerzální vstupní a výstupní porty (USB, USB-C, HDMI, DisplayPort, Thunderbolt, HDMI, S/PDIF), RS232 jako virtuální COM port a jeho použití v praxi, modemy, nejčastější sběrnice pro propojování periférií v mikroprocesorových systémech (IIC, SPI), nejčastější sběrnice pro komunikaci počítačů a systémů ve zdravotnictví, standardizace, operační systémy, mobilní platforma pro snímání, vyhodnocování a přenos dat, rozhraní Bluetooth, NFC, počítačové sítě, LAN, WAN, vrstvý referenční model OSI, základní technické prostředí LAN (Ethernet, WiFi a jejich praktická realizace), Internet - prohlížeč, používané standardy a jazyky, úvod do architektury TCP/IP, protokoly a adresování, propojování lokálních sítí, brány a směrovače, pojem server, architektura klient-server, nejčastěji používané protokoly síťové architektury TCP/IP: HTTP, FTP, DNS, DHCP, VPN.</p> | | | |
| F7PBKLAD | Linear Algebra and Differential Calculus | Z,ZK | 6 |
| F7PBKLG | Logic | Z,ZK | 5 |

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|------------|---|------|---|
| F7PBKMAZ | Management and Administration in Health Care | KZ | 1 |
| F7PBKML | Matlab | KZ | 3 |
| F7PBKMTB-C | Microprocessor Technology in Biomedicine | KZ | 5 |
| F7PBKNVM-C | Design and Development of Mobile and Embedded Applications | KZ | 4 |
| F7PBKOOOP | Object Oriented Programming | Z,ZK | 3 |
| F7PBKOS | Operating Systems | Z,ZK | 4 |
| F7PBKPND | Presentation Tools and Skills | KZ | 2 |
| F7PBKPPN | Health Legislation and Standards | KZ | 2 |
| F7PBKPPN-C | Computer-aided design, development and production of electronic devices | KZ | 3 |
| F7PBKPPP | Programming Tools | KZ | 2 |
| F7PBKPR1 | Project I. | KZ | 5 |
| F7PBKPR2 | Project II. | KZ | 5 |
| F7PBKPR3 | Project II. | KZ | 5 |
| F7PBKPR4 | Project IV. | KZ | 5 |
| F7PBKPR5 | Project V. | KZ | 6 |
| F7PBKPTD-C | Advanced Technologies in Diabetology | KZ | 3 |
| F7PBKSBP | Bachelor Thesis Seminar | Z | 3 |
| F7PBKSFI | Software Engineering | Z,ZK | 4 |
| F7PBKTVR | Telemedicine and Virtual Reality | KZ | 3 |
| F7PBKTWA | Web Application Development | Z,ZK | 3 |
| F7PBKUIE | Artificial Intelligence and Expert Systems | Z,ZK | 5 |
| F7PBKUSS-C | Introduction to Systems and Signals | Z,ZK | 5 |
| F7PBKZAT-C | Analogue Techniques Fundamentals | Z,ZK | 5 |
| F7PBKZCT-C | Digital Technology Fundamentals | Z,ZK | 6 |
| F7PBKZSI | Software Engineering Fundamentals | Z,ZK | 4 |
| F7PBKZTM1 | Fundamentals of Theoretical Medicine I. | Z,ZK | 2 |
| F7PBKZTM2 | Fundamentals of Theoretical Medicine II. | ZK | 2 |

For updated information see <http://bilakniha.cvut.cz/en/FF.html>

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