Bachelor KT-verkfrøði

1. lestrarhálvár	2. lestrarhálvár	3. lestrarhálvár	4. lestrarhálvár	5. lestrarhálvár	6. lestrarhálvár
Kunningartøkni - støði (KT)	Algoritmur & datastrukturar	Inngangur til samskiftis-skipanir og KST	Operativ-skipanir	Val-lærugrein	Bachelor Ritgerð
Elektronikkur	Mikroteldur, digitalt design og arkitekturur	Instrumentering	Signalfrøði	Val-lærugrein	
Støddfrøði 1	Støddfrøði 2	Støddfrøði 3	Val-lærugrein	Val-lærugrein	
Alisfrøði 1	Alisfrøði 2	Val-lærugrein	Val-lærugrein	Val-lærugrein	Val-lærugrein

Útbúgvingin tekur 3 ár, og er skipað í 6 lestrarhálvár. Í fyrstu 5 lestrarhálvár-unum eru 4 eins stór skeið. Í 6. lestrarhálvári er endaliga bachelorritgerðin umframt eitt skeið. Trýst á eitt skeið fyri at lesa skeiðslýsingina.

Næsta síða ➢

Bachelor ICT Engineering

1st Semester	2nd Semester	3rd Semester	4th Semester	5th Semester	6th Semester
Basics of information technology (IT)	Algorithms and data structures	Introduction to communication in ICT systems	Operating systems	Optional course	Bachelor Thesis
Electronics	Microcontrollers, digital design and architecture	Instrumentation	Signal processing	Optional course	
Math 1	Math 2	Math 3	Optional course	Optional course	
Physics 1	Physics 2	Optional course	Optional course	Optional course	Optional course

The 3-year programme is structured in six semesters. The first five semesters each contain four equally sized (7.5 ECTS) courses. The sixth semester contains the bachelor thesis and one additional course. Click on a course to read the course description.

Next page ➢

Vallærugreinar 3. lestrarhálvár ella seinni:

- Dátugreining
- Objektrættað forritan

Vallærugreinar 4. lestrarhálvár ella seinni:

- Alisfrøði 3: Nýggjari alisfrøði
- Støddfrøði 4
- Dátugrunnar og skipanarmenning
- Web: design og samskifti

Vallærugreinar 5. og 6. lestrarhálvár:

- Nútímans samskiftisskipanir
- "Distributed & embedded" telduskipanir
- Fartelefon og tráðleyst samskifti
- Stýriskipanir
- El-orku skipanir
- Orka - tilfeingi og nýtsla
- Dátunet
- "Software" verkfrøði
- "Software" arkitekturur
- KT strategi

Listin yvir vallærugreinar verður broyttur alt eftir teimum møguleikum, ið eru fyri at geva tær.

Lærugreinar tiknar á øðrum lestrarlinjum á Fróðskaparsetrinum kunnu verða góðkendar.

Lærugreinar tiknar sum skeið ella fjarundirvísing frá øðrum universiteti ella hægri lærustovni kunnu verða góðkendar.

Smærri verkætlanir kunnu í ein ávísan mun verða góðkendar sum vallærugreinar.

➢ Forsíða / Front page

Optional courses. 3rd semester or later:

- Data analysis
- Object-oriented programming

Optional courses. 4th semester or later:

- Physics 3: Modern physics
- Mathematics 4
- Databases and system development
- Web design and communications

Optional courses. 5th and 6th semesters:

- Modern communications
- Distributed and embedded systems
- Mobile and wireless communications
- Control systems
- Electrical power systems
- Energy resources and applications
- Data networks
- Software engineering
- Software architecture
- IT strategy

The list of optional courses is subject to change according to available resources.

Courses from other study lines at the University of the Faroe Islands can be approved for credit according to individual assessment.

Courses taken by distance learning or at other universities or higher educational institutions may be accepted according to individual assessment.

Small projects may, in some cases, be accepted as courses.

Næsta síða / Next page ➢

Heiti	**Kunningartøkni (KT) - støði**		**Title**	**Basics of information technology (IT)**	
Skeið nr.: 3925.08	**ECTS: 7.5**	**Fyritreyt: Miðnámsprógv við støddfr-, alis- og evnafrøði á ávikavist A, B og C støði**	**Course no.: 3925.08**	**ECTS: 7.5**	**Prerequisites: Upper secondary school with A-level mathematics, B-level physics and C-level chemistry**
Endamál	At geva ein inngang til grundleggjandi hugtøk um teldur og nýtslu av teldum til kunningartøkni. Luttakararnir læra støði fyri vanligari forritan og nýtslu av vanliga fyrikomandi forritum. Smáar verkætlanir verða gjørdar og skjalprógvaðar við frágreiðing um greining, design, tilevning og roynd av úrslitinum.		**Objective**	The purpose of the course is to introduce the student to basic concepts of computers applications for information technology. The participants learn basic principles of standard programming and using standard programmes. Small projects are carried out and documented by a report on the problem analysis, design, implementation and testing of the result.	
Evni	Ein almennur inngangur til kunningartøkni, hugtøk og nýtslu umfatandi grundleggjandi strukturar av telduni, stýriskipan, teldunetverk, skipan, internet, WEB tøkni, databasur. Grundleggjandi telduforritan við brúk av Matlab, og eitt objekt orienterað umhvørvi. Standard forrit, umfatandi rokniark, skriviforrit, og databasur. Nýtsla av KT og teldu til at skriva og strukturera tekst, talvur og myndir til tekniskar frágreiðingar.		**Subject**	A general introduction to information-technology principles and applications, including basic structure of the computer, operating systems, computer networks, system principles, Internet, Web technology and databases. Introduction to basic programming principles using Matlab and an object-oriented environment. Standard programs including spreadsheets, word processors and databases. Applications of IT and the computer for writing and structuring text, tables and figures for a technical report.	
Undirvísing	Fyrilestrar, uppgávuloysn, smáar verkætlanir, telduuppgávur. Góðkenning av frágreiðing krevst.		**Teaching**	Lectures, problem solving, small projects, computer exercises, with approval of reports.	
Døming	Skrivlig prótvøka í fýra tímar við hjálparamboðum. Prótvøkuúrslit sambært galdandi prótvalsstiga.		**Evaluation**	Four-hour written examination with auxiliary material. The existing grade scale will be used.	
Lestrarlisti	1. J. A. Senn: “Information technology: Principles , Practice and Opportunities”, 3rd ed., Prentice Hall 2004 2. G. Beekman, M. J. Quinn: “Tomorrow’s Technology and You”, Prentice Hall 2008. 3. S.Lauesen, “User Interface Design”, Addison Wesley 2005 4. Matlab manuals 5. Java manuals 6. Python manuals		**Material**	1. J. A. Senn: “Information technology: Principles, Practice and Opportunities”, 3rd ed., Prentice Hall 2004 2. G. Beekman, M. J. Quinn: “Tomorrow’s Technology and You”, Prentice Hall 2008 3. S. Lauesen, “User Interface Design”, Addison Wesley 2005 4. Matlab manuals 5. Java manuals 6. Python manuals	
Samskifti	Magnus Danielsen, email: magnusd@setur.fo		**Contact**	Magnus Danielsen, email: magnusd@setur.fo	

➢ Forsíða / Front page

Næsta síða / Next page ➢

Heiti	**Elektronikkur**		**Title**	**Electronics**	
Skeið nr.: 3921.08	**ECTS: 7.5**	**Fyritreyt: Miðnámsprógv við støddfr-, alis- og evnafrøði á ávikavist A, B og C støði**	**Course no.: 3921.08**	**ECTS: 7.5**	**Prerequisites: Upper secondary school with A-level mathematics, B-level physics and C-level chemistry**
Endamál	At geva ein inngang til grundleggjandi elektronisk hugtøk og gevur eina samanhangandi viðgerð av digitalum og analogum rásum og lutum av avgerandi týdningi fyri nútíðar elektrotekniskari útgerð, ið er støðið fyri KST grundaða samfelagið og vinnulívið.		**Objective**	The course gives an introduction to fundamentals of electronics principles, providing comprehensive understanding of digital and analogue circuits and components of vital importance for modern equipment supporting the ICT-based society and industry.	
Evni	Inngangur til streymrásir: Kirchoffs spennings- og streymlógir og líkningar. Spennings- og streymgerðar. Mótstøður, kondensatorar, induktiónir og transformarar. Thevenin og Mayer Norton lógirnar, superpositión. Transientgreining av 1. og 2. ordan. AC rásir og kompleksur impedansur. Analogur elektronikkur: Diodur, bipolerir og MOSFET transistorar, karakteristikkar og einfaldar javngildisrásir. CMOS og TTL. Styrkjarar, Ideellir operatiónsstyrkjarar og nýtsla. Schmitt triggarar, multivibratorar og bylgjuformsgerðar. A/D ogD/A umformarar. Digitalur elektronikkur: Boolsk algebra. Tal umboðanir, biner tøl í fortekns og tveykomplement umboðan. Kombinatoriskar greiningar og rásir. Karnaugh diagramm. Sekventiellar rásir við latchum og flipp-floppum og digitalar støðumaskinum. Nýtsla av digitalum rásum til registur, teljarar, multi- og demulti-pleksarar, kodarar og dekodarar, og bygnað av mikroteldum.		**Subject**	Introductory circuit theory: Kirchhoffs voltage and current laws and equations. Voltage and current generators. Resistors, capacitors, inductors and transformers. Thévenin and Mayer-Norton theorems, superposition. Transient analysis of 1st and 2nd order. AC circuits and complex impedance. Analogue electronics: Diodes, bipolar and MOSFET transistors, with characteristics and simple equivalent diagrams. CMOS and TTL logic. Amplifiers. Ideal operational amplifiers applications. Schmitt triggers, multi-vibrators and waveform generators, A/D and D/A converters. Digital electronics: Boolean algebra. Number representations, binary numbers in signed magnitude, and two's-complement representation. Combinational analysis and circuits. Karnaugh diagram. Sequential circuits with latches and synchronous flip-flops. Digital state machines. Applications of digital circuits for registers, counters, multiplexers, de-multiplexers, coders and de-coders, and structure of a microcomputer.	
Undirvísing	Fyrilestrar, uppgávur, smáar verkætlanir og starvsstovuvenjingar við góðkenning av frágreiðingum.		**Teaching**	Lectures, problem solving, small projects, and laboratory exercises with approval of reports.	
Døming	Skrivlig prótvtøka í fýra tímar við hjálparamboðum. Prótvtøkuúrslit sambært galdandi prótvalsstiga.		**Evaluation**	Four-hour written examination with auxiliary material. The existing grade scale will be used.	
Lestrarlisti	1. A. R. Hambley, Electrical Engineering, Princ. and Appl., 4th ed. 2. M.Danielsen: Innleiðandi elektronikkur, støði undir dig.elektr., 3. N. Storey: Electronics, A Systems Approach, 2nd ed. 4. J.F. Wakerly: Digital design, Principles and Practices, 3rd ed 5. M. Danielsen: 4 Laboratory exercises instructions		**Material**	1. A.R. Hambley: Electrical Engineering, Principles & Applications,4th ed 2. M.Danielsen: Innleiðandi elektronikkur, støði undir dig. elektronikki 3. N. Storey: Electronics, A Systems Approach, 2nd ed. 4. J. F. Wakerly: Digital design, Principles and Practices, 3rd ed 5. M. Danielsen: 4 Laboratory exercises instructions	
Samskifti	Magnus Danielsen, email: magnusd@setur.fo		**Contact**	Magnus Danielsen, email: magnusd@setur.fo	

⮜ Forsíða / Front page **Næsta síða / Next page ➢**

Heiti	**Alisfrøði 1: Mekanikkur og hitalæra**		**Title**	**Physics 1: Mechanics and thermodynamics**	
Skeið nr 3007.08	**ECTS**: 7.50	**Fortreytir**: Miðnámsprógv	**Course no** 3007.08	**ECTS**: 7.50	**Prerequisites**: Upper Secnodary School
Endamál	At seta studentarnar væl inn í grundleggjandi lógir og roknihættir í mekanikkini og í hitalæruni.		**Objective**	To familiarize students with the fundamental laws and methods in classical mechanics and thermodynamics.	
Evni	Kinematikkur, rørsla í eini og fleiri dimensiónum, Newton's lógir, varðveitslusetningar, arbeiði og orka, konservativ kraftfelt, snaringar, bitlaskipanir, fastir lutir, sveiggj, gravitatión, innleiðsla í spesiella relativitetsástøði, javnvág og elastisitetsástøði, veskumekanikkur, temperaturur og kinetisk gassástøði, hitaorka og hitakapasitetur, 1. og 2. høvuðssetningur í hitalæruni.		**Subject**	Kinematics, motion in one, two and three dimensions, the laws of Newton, conservation rules, work and energy, conservative forces, rotation, particle systems, rigid bodies, oscillating motions, gravitation, introduction to special relativity, equilibrium and elasticity, fluids, temperature and kinetic theory of gases, heat, het capacity, first and second law of thermodynamics.	
Undirvísing	Fyrilestrar og uppgávurokning.		**Teaching**	Lectures and Problem Solving.	
Døming	Skrivlig prótøka í fýra tímar. Øll vanlig hjálparamboð loyvd. Prótøkuúrslit sambært galdandi prótalsstiga.		**Evaluation**	Written examination of four hours duration. Reference material permitted. The existing grade scale will be used.	
Lestrarlisti	Paul A. Tipler and Gene Mosca: Physics for Scientists and Engineers -Volume 1: Mechanics, Oscillations and Waves, Thermodynamics, 5th Edition, Freeman-Worth.; M. Alonso, E. J. Finn: Fundamental University Physics, Mechanics and Thermodynamics, Vol 1, 2. útgáva., Addison-Wesley		**Material**	Paul A. Tipler and Gene Mosca: Physics for Scientists and Engineers -Volume 1: Mechanics, Oscillations and Waves, Thermodynamics, 5th Edition, Freeman-Worth.; M. Alonso, E. J. Finn: Fundamental University Physics, Mechanics and Thermodynamics, Vol 1, 2. edition, Addison-Wesley	
Samskifti	Hans Pauli Joensen; email: hanspj@setur.fo		**Contact**	Hans Pauli Joensen; email: hanspj@setur.fo	

➢ Forsíða / Front page

Næsta síða / Next page ➢

Heiti	**Støddfrøði 1**		**Title**	**Mathematics 1**	
Skeið nr.: 3002.08	**ECTS: 7.5**	**Fyritreyt: Miðnámsprógv við støddfrøði á ávikavist A, B og C støði**	**Course no.: 3002.08**	**ECTS: 7.5**	**Prerequisites: Upper secondary school with math., phys. and chem. on level A, B and C respectively**
Endamál	At kunna studentarnar um støddfrøðigreining og linjurætta algebra.		**Objective**	To give the students an introduction to mathematical analysis and linear algebra.	
Evni	Innleiðandi støddfrøði. Kompleks tøl og hyperbolskar funktiónir. Rekkjur og markvirði, konvergensur hjá óendaligum rekkjum, Taylor rekkjur. Partiel differentiering, stationer virði hjá funktiónum við fleiri variablum. Multipul integral, areal og volumen. Vektor algebra, falding av vektorum. Matrisur og vektorrúm, matrisu algebra, eginvektorar og eginvirði, sambundnar linjuligar líkningar. Forritið Maple og umhvørvið tess.		**Subject**	Preliminary algebra and calculus. Complex numbers and hyperbolic functions. Series and limits, convergence of infinite series, Taylor series. Partial differentiation, stationary values of functions of several variables. Multiple integrals, areas and volumes. Vector algebra, multiplication of vectors. Matrices and vector spaces, matrix algebra, eigenvectors and eigenvalues, simultaneous linear equations. Maple software environment.	
Undirvísing	Fyrilestrar og uppgávurokning. Venjing við Maple forritinum.		**Teaching**	Lectures and exercises. Training with Maple software.	
Døming	Skrivlig prótvøka í fýra tímar. Hjálparamboð loyvd. Prótvøkuúrslit sambært galdandi prótvalsstiga.		**Evaluation**	Four-hour written examination. Auxiliary exam material allowed. The existing grade scale will be used.	
Lestrarlisti	1. K. F. Riley, M. P. Hobson S. J. Bence: “Mathematical Methods for Physics and Engineering”, 3rd ed. 2006, Cambridge University Press. 2. Notes on Maple software.		**Material**	1. K. F. Riley, M. P. Hobson S. J. Bence: “Mathematical Methods for Physics and Engineering”, 3rd ed. 2006, Cambridge University Press. 2. Notes on Maple software	
Samskifti	Petur Zachariassen; email: peturz@setur.fo		**Contact**	Petur Zachariassen; email: peturz@setur.fo	

➢ Forsíða / Front page

Næsta síða / Next page ➢

Heiti	**Algoritmur og datastrukturar**		**Title**	**Algorithms and data structures**	
Skeið nr.: **3926.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3925.08**	**Course no.:** **3926.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3925.08**
Endamál	At geva eina innleiðandi gjøgnumgongd av einfaldum algoritmum, tøknihættum og paradigmum. ICT skipanir hava grundleggjandi støði í nýtslu av algoritmum og datastrukturum í teldum.		**Objective**	The course introduces elementary algorithms, techniques and paradigms. ICT systems are fundamentally based on application of algorithms and data structures in the computer.	
Evni	Meginreglur fyri databygnað, leititøkni, být-og-vinn, sortering, ”hashing”, úrveljing, ”greedy” algoritmur, grafalgoritmur, ”public-key” kryptoskipanir, dynamisk forritan, leiting í teksti, P og NP og NP-fullkomni, parallellar algoritmur.		**Subject**	Principles of data structures, search techniques, divide-and-conquer, sorting, hashing and selection, greedy algorithms, graph algorithms, public-key cryptosystem, dynamic programming, text searching, computational algebra, P and NP, coping with NP-completeness, parallel algorithms.	
Undirvísing	Fyrilestrar, uppgávuloysn, smáar verkætlanir, telduvenjingar við góðkenning av frágreiðing.		**Teaching**	Lectures, problem solving, small projects, computer exercises, with approval of reports.	
Døming	Skrivlig prótøka í fýra tímar við hjálparamboðum. Prótøkuúrslit sambært galdandi prótalsstiga.		**Evaluation**	Four-hour written examination with auxiliary material. The existing grade scale will be used.	
Lestrarlisti	1. R. Johnsonbaugh, M Schaefer, “Algorithms”, Prentice Hall 2006 2. P. Drake: “Data Structures and Algorithms in Java” , Prentice Hall 2006		**Material**	1. R. Johnsonbaugh, M Schaefer, “Algorithms”, Prentice Hall 2006 2. P. Drake: “Data Structures and Algorithms in Java”, Prentice Hall 2006	
Samskifti	Magnus Danielsen, email: magnusd@setur.fo		**Contact**	Magnus Danielsen, email: magnusd@setur.fo	

➢ Forsíða / Front page

Næsta síða / Next page ➢

Heiti	**Mikroteldur, digitalt design og arkitekturur**		**Title**	**Microcontrollers, digital design and architecture.**	
Skeið nr.: **3922.08**	**ECTS:** **7.5**	**Fyritreyt: Skeið nr.** **3921.08, 3925.08**	**Course no.:** **3922.08**	**ECTS:** **7.5**	**Prerequisites: Course no.** **3921.08, 3925.08**
Endamál	"Hardware-software" integratión og forritan av heildar skipanum er týdningarmikil fyri KT grundaða vinnu og dagligdags nýtslur. Í skeiðinum er dentur lagdur á hástig forritanar mál til forritan av µ-processorum og teldum umframt teldu arkitektur og innsetan av teldum í heildarnetverk.		**Objective**	Hardware-software integration and programming of total systems are important for information-technology-based industrial and daily-life applications. Focus is on novel high-level programming languages for programming of µ-processors and -controlers, and machine architecture and integration of processors in networks.	
Evni	Við støði í grundleggjandi digitalum elektronikki verður forritan av PLC rásum viðgjørd. Í skeiðinum er dentur lagdur á CPLD, VHDL og Altera Quartus II "software", og umfatar tað forritan av ymsum digitalum rásum, m.a. grundleggjandi kombinatoriskum og sekventiellum rásum, minnum og markamótum til nútímans teldur og til analoga heimin. Mikroteldur og -kontrollarar og teirra arkitekturur verða gjøgnumgingin, umfatandi "hardware", CPU, registur, adressering, "assembly" málið, feilfinning og –rætting, software design, teldubussar, minnir, digital seriu og parallell og analog inn/út-portur. Reelltíðar hendingar og avbrot.		**Subject**	On a base of fundamental digital electronics concepts, emphasis is on programming of programmable logic devices. Focus is on CPLD's, VHDL and Altera Quartus II software, covering programming of a diversity of circuits, including basic gates, combinational and sequential logics, memories and interface to modern computers, and to the analogue world. Microcontrollers and microprocessors, and their computer architecture are reviewed, including, basic hardware, CPU, registers, addressing, assembly language, debugging, software design, computer busses, memories, digital serial, parallel, and analogue input/output. Real-time events and interrupts.	
Undirvísing	Fyrilestrar, uppgávur, smáar verkætlanir og starvsstovuvenjingar við góðtøku av frágreiðing.		**Teaching**	Lectures, problem solving, small projects, and laboratory exercises with approval of reports.	
Døming	Skrivlig prótvtøka í fýra tímar við hjálparamboðum. Prótvtøkuúrslit sambært galdandi prótvalsstiga.		**Evaluation**	Four-hour written examination with auxiliary material. The existing grade scale will be used.	
Lestrarlisti	1. W. Kleitz: Digital Electronics with VHDL (Quartus II Version), Prentice Hall 2006 2. W. Kleitz: Digital Electronics. A practical approach, 8th ed., Prentice Hall 2008 3. F.M. Cady: Microcontrollers and Microcomputers, Principles of Software and Hardware Engineering, Oxford Academic Press 1997 4. J. Crisp: Introduction to Microprocessors and Microcontrollers, 2nd ed., Elsevier 2003		**Material**	1. W. Kleitz: Digital Electronics with VHDL (Quartus II Version), Prentice Hall 2006 2. W. Kleitz: Digital Electronics. A practical approach, 8th ed., Prentice Hall 2008 3. F. M. Cady: Microcontrollers and Microcomputers, Principles of Software and Hardware Engineering, Oxford Academy Press 1997 4. J. Crisp: Introduction to Microprocessors and Microcontrollers, 2nd ed., Elsevier 2003	
Samskifti	Magnus Danielsen, email: magnusd@setur.fo		**Contact**	Magnus Danielsen, email: magnusd@setur.fo	

➢ **Forsíða / Front page** **Næsta síða / Next page** ➢

Heiti	**Alisfrøði 2**		**Title**	**Physics 2**	
Skeið nr.: **3008.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3007.08**	**Course no.:** **3008.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3007.08**
Endamál	At geva studentunum grundleggjandi kunnleika til hugtøk og alisfrøðiligar lógir, ið eru galdandi í elektromagnetismu.		**Objective**	To give the students knowledge in the fundamentals of electromagnetic theory.	
Evni	Elektrisk løðing og elektriskur streymur. Coulomb kraft. Elektromagnetisk felt. Elektrostatisk potentialir. Kapacitansur. Dielektrika. Elektriskar streymrásir. Støðug magnetfelt. Magnetfelt í føstum evnum. Elektromotorisk kraft. Induktión. Líkningar Maxwells. Elektromagnetiskar aldur. Løddir bitlar, ið flyta seg í støðugum elektriskum og magnetiskum feltum. Elektrisk og magnetisk orka. Poynting vektor. Ljós. Optikkur.		**Subject**	Electric charge and current, Coulomb's law, electrostatic fields, electrostatic potentials, capacitance, dielectrics, electric circuits, magneto-static fields, magnetic fields in solids, electromotive force, induction, Maxwell equations, electromagnetic waves, motion of charged particles in electro- and magneto-static fields, electric and magnetic energy, Poynting vector. Light. Optics.	
Undirvísing	Fyrilestrar og uppgávurokning.		**Teaching**	Lectures and Problem Solving.	
Døming	Skrivlig prótvøka í fýra tímar. Øll vanlig hjálparamboð loyvd. Prótvøkuúrslit sambært galdandi prótvalsstiga.		**Evaluation**	Written examination of four hours duration. Reference material permitted. The existing grade scale will be used.	
Lestrarlisti	1. P. A. Tipler, G. Mosca: “Physics for scientists and engineers - vol 2: Electricity and Magnetism. Light”, 5th ed., W. H. Freeman and Comany, 2004 2. A. F. Kip: “Fundamentals of Electricity and Magnetism”, 2nd ed., McGraw-Hill, 1969		**Material**	1. P. A. Tipler, G. Mosca: “Physics for scientists and engineers” - vol 2: Electricity and Magnetism. Light”, 5th ed., W. H. Freeman and Comany, 2004 2. A. F. Kip: “Fundamentals of Electricity and Magnetism”, 2nd ed., McGraw-Hill, 1969	
Samskifti	Hans Pauli Joensen; email: hanspj@setur.fo		**Contact**	Hans Pauli Joensen; email: hanspj@setur.fo	

⮜ Forsíða / Front page

Næsta síða / Next page ➢

Heiti	**Støddfrøði 2**		**Title**	**Mathematics 2**	
Skeið nr.: **3003.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3002.08**	**Course no.:** **3003.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3002.08**
Endamál	At kunna studentarnar um vektorrokning og vanligar differentiallíkningar við atliti til nýtslu innan alisfrøði og verkfrøði.		**Objective**	To give the students an introduction to vector calculus and ordinary differential eqations with applications in physics and engineering.	
Evni	Vektorrokning, differentiering og integratión av vektorum, formlar fyri vektor operatorar. Linju-, flatu- og rúmintegral, útrokning av flatu- og rúmintegral, integralformar fyri grad, div and curl, Green og Stokes setningar. Fourier rekkjur. Fourier and Laplace transformar. Vanligar differentiallíkningar av fyrsta ordan og hægri ordan. Rekkjuloysnir fyri vanligar differentiallíkningar. Eginfunktións metodur fyri differentiallíkningar. Serligar funktiónir.		**Subject**	Vector calculus, differentiation and integration of vectors, vector operator formulae. Line, surface and volume integrals, evaluating surface and volume integrals, integral forms for grad, div and curl, Green's and Stokes' theorems. Fourier series. Fourier and Laplace transforms. First-order and higher-order ordinary differential equations. Series solutions of ordinary differential equations. Eigenfunction methods for differential equations. Special functions.	
Undirvísing	Fyrilestrar og venjingar		**Teaching**	Lectures and exercises.	
Døming	Skrivlig prótøka í fýra tímar. Hjálparamboð loyvd. Prótøkuúrslit sambært galdandi prótalsstiga.		**Evaluation**	Four-hour written examination. Auxiliary exam material allowed. The existing grade scale will be used.	
Lestrarlisti	K. F. Riley, M. P. Hobson, S. J. Bence: "Mathematical Methods for Physics and Engineering", 3rd ed.,Cambridge University Press, 2006		**Material**	K. F. Riley, M. P. Hobson, S. J. Bence: "Mathematical Methods for Physics and Engineering", 3rd ed.,Cambridge University Press, 2006	
Samskifti	Petur Zachariassen; email: peturz@setur.fo		**Contact**	Petur Zachariassen; email: peturz@setur.fo	

➢ Forsíða / Front page

Næsta síða / Next page ➢

Heiti	**Inngangur til samskiftiskipanir og KST**		**Title**	**Introduction to communication in ICT systems**	
Skeið nr.: **3927.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3922.08, 3008.08**	**Course no.:** **3927.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3922.08, 3008.08**
Endamál	At geva ein inngang til grundleggjandi hugtøk í samskiftis-verkfrøði og geva eitt umfatandi innlit í nýggjari digitalar og analogar samskiftisskipanir. Skeiðið inniheldur eina viðgerð av tekniska støðinum fyri internet, multimedia, datasamskifti, og fjarskiftisnet.		**Objective**	The course is an introduction to fundamentals of communication technology principles, providing comprehensive understanding of modern digital and analogue systems. The course includes a basic treatment of techniques important for applications in the Internet, multimedia, data-, and telecommunications networks.	
Evni	Inngangur til og yvirlit yvir hughøk um tekniskar samskiftisskipanir. Hættir til brúk í signal- og skipanargreining. Spektralir eginleikar og filtrering. Flutningur av signalum við brúk av kaðalum, ljósleiðarum og radiobylgjum. Digitalt og analogt moduleraðar skipanir. Amliltudu-, fasu- og frekvernsmodulatión, -demodulatión og detektión. Frekvens, tíðar, rúm og kodu multipleksing og multipil atgongd (access). Sampling, digitalt pulsmoduleraðar skipanir og PCM. Nýtsla í telefon og elektroniskum atgongdarskipanum. SDH, PDH, ISDN, ATM, tíðar- og rúmbýtt skifti í telefonstøðum. Nýtsla í fartelefon GSM, GPRS og UMTS. OSI modellið. Internet, IP, TCP, HTTP protokollir. Tráðleysar atgongdarskipanir, LAN, Blue tooth.		**Subject**	An introduction to the principles of communications. Signal and system analysis methods. Spectral properties, filtering. Transmission with metal cables, optical waveguides, and radio waves. Digital and analogue modulated systems. Amplitude, phase, and frequency modulation, demodulation and detection. Frequency, time, space and code multiplexing and multiple-access. Sampling and digital pulse modulated systems, PCM. Applications in telephone transmission and access systems, SDH and PDH, ISDN, ATM, time and space division switching. Application in mobile telecommunication GSM, GPRS, and UMTS. The OSI reference model. Internet, IP, TCP, HTTP protocols. Wireless access systems, LAN, Bluetooth.	
Undirvísing	Fyrilestrar, uppgávur, smáar verkætlanir og starvsstovuvenjingar við góðtøku av frágreiðing.		**Teaching**	Lectures, problem solving, small projects, and laboratory exercises with approval of reports.	
Døming	Skrivlig prótvøka í fýra tímar við hjálparamboðum. Prótvøkuúrslit sambært galdandi prótvalsstiga.		**Evaluation**	Four-hour written examination with auxiliary material. The existing grade scale will be used.	
Lestrarlisti	1.M. Rosengrant: “Introduction to telecommunications”, 2nd ed. Prentice Hall 2007 2.“Understanding Telecommunications 1”, Ericsson, Studentlitt. 1998 3.“Understanding Telecommunications 2”, Ericsson, Studentlitt. 1998 4.A. Tannenberg: “Computer networks”, Prentice Hall 2003 5.Y. Zheng, S. Akhbar: “Networks for Computer Scientists and Engineers”, Oxford University Press 2002 6.J.A.Audestad:“Access and Transport Networks”,Artech House 2007		**Material**	1.M. Rosengrant: “Introduction to telecommunications”, 2nd ed. Prentice Hall 2007 2.“Understanding Telecommunications 1”, Ericsson, Studentlitt. 1998 3.“Understanding Telecommunications 2”, Ericsson, Studentlitt. 1998 4.A. Tannenberg: “Computer networks”, Prentice Hall 2003 5.Y. Zheng, S. Akhbar: “Networks for Computer Scientists and Engineers”, Oxford University Press 2002 6.J.A.Audestad:“Access and Transport Networks”,Artech House 2007	
Samskifti	Magnus Danielsen, email: magnusd@setur.fo		**Contact**	Magnus Danielsen, email: magnusd@setur.fo	

⮜ Forsíða / Front page **Næsta síða / Next page ➢**

Heiti	Instrumentering		Title	Instrumentation	
Skeið nr.: 3923.08	ECTS: 7.5	Fyritreyt: Skeið nr. 3921.08, 3007.08	Course no: 3923.08	ECTS: 7.5	Prerequisites: Course no. 3921.08, 3007.08
Endamál	At geva eina gjøgnumgongd av mátihættum og elektroniskum instrumenteringsskipanum, teirra neyvleika og kalibrering. Umfataðir eru framkomnir følarar og elektroniskir lutir til mátitól og -uppsetingar, umframt viðgerð í elektroniskum rásum, teldum, og útlesing (display).		**Objective**	Methods of measurements of data, and electronic instrumentation systems, their precision and calibration. Included are advanced sensors and components related to instruments and measurement setups, basic processing in electric circuits, computers, and display.	
Evni	Grundleggjandi lýsingar og hugtøk innan mátihættir og instrumenteringsskipanir, statiskir og dynamiskir eginleikar, hagfrøðiligir eginleikar av mátaðum úrslitum, neyvleiki og feilir, kalibrering, statiskir og dynamiskir hættir til feilminking og kompensering. Óljóð og ávirkan av umhvørvi og last á mátað úrslit. Følarar til máting av t.d.frástøðu, flyting, ferð, akseleratión, trýsti, kraft, "stress", avskapan, vesku- og gassrensli, hitastigi ljósi, elektromagnetiskum bylgjum og kemikalium. Følararnir umskapa mátaðu støddina til elektriskan spenning ella streym við hjálp av mótstøðu, kapasiteti, induktión, antennu, termoelektrisiteti, elektrokemi, piezoelektrisiteti, piezoresistiviteti, elektrooptikki, fipuroptikki ella elektroakustikki. Signalviðgerð við nýtslu av styrkjarum, signalkeldum, mátibrúgvum, filtrum, analog/digital umgerð, modulatión og demodulatión. Dátusavning, -stýring, elektroniskur flutningur og vísiskipanir. Dømi um nýtslur til instrumenteringsskipanir, t.d. til máting av væturensli, hitarensli, rørslum, kraft, kraftmomenti, trýsti, fukti, hitastigi, ljóði og ultraljóði.		**Subject**	Basic definitions and concepts of measuremental methods and instrumentation systems, static and dynamic properties, statistical properties of measured data, precision, errors, calibration, static and dynamic methods for error reduction and compensation. Noise and influence of the environment and load on measured results. Sensors with resistive, capacitive, inductive, electromagnetic, termoelectric, elastic, piezoelectric, piezoresistive, electrochemical, electro- and fiberoptic and acoustic transducers for measurements of displacements, velocity, acceleration, pressure, force, stress, deformation, flow of fluid and gas, temperature, light, electromagnetic fields and chemicals. Signalconditioning and processing using amplifiers, signal sources, bridges, filters, A/D conversion, modulation and demodulation. Data acquisition, presentation, control, and transmission systems. Examples of application scenario for instrumentation systems, e.g. for measurements of flow, heat transfer, motion, force, torque, pressure, humidity, temperature, sound and ultrasound.	
Undirvísing	Fyrilestrar, uppgávur, starvsstovuvenj. við góðkenning av frágreiðing.		**Teaching**	Lectures, problems, laboratory exercises with approval of reports.	
Døming	4 tímar skrivlig prótøka við hjálparamboðum. Galdandi prótalsstigi.		**Evaluation**	Four-hour written examination with auxiliary material. The existing grade scale will be used.	
Lestrarlisti	1. J. P.Bentley:"Principles of Measurement Systems", 4th ed, Prentice Hall 2004 2. A. S. Morris: "Measurement and Instrumentation Principles", 3rd ed Elsevier 2001		**Material**	1. J. P.Bentley: "Principles of Measurement Systems", 4th ed, Prentice Hall 2004 2. A. S. Morris: "Measurement and Instrumentation Principles", 3rd ed Elsevier 2001	
Samskifti	Magnus Danielsen, email: magnusd@setur.fo		**Contact**	Magnus Danielsen, email: magnusd@setur.fo	

➢ Forsíða / Front page
Næsta síða / Next page ➢

Heiti	**Støddfrøði 3**		**Title**	**Mathematics 3**	
Skeið nr.: **3004.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3003.08**	**Course no.:** **3004.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3003.08**
Endamál	At kunna studentarnar um numeriskar metodur, sannlíkindi og hagfrøði.		**Objective**	To give the students an introduction to numerical methods, probability and statistics.	
Evni	Numeriskar metodur: Algebraiskar og transcendentalar líkningar, Newton metodur, sambundnar linjuligar líkningar, Gauss eliminatión og Gauss-Seidel iteratión. Numerisk integratión, trapes og Simpson reglur, Gauss integratión, Monte Carlo metodur. Endaligir differensir. Differential- og differenslíkningar. Loysnir við Taylor rekkjum, prediktión og korrektión. Runga-Kutta metodur. Hægri ordan og partiellar differentiallíkningar. Sannlíkindi og hagfrøði: Stokastiskir variablar og býti. Týðandi diskret og kontinuer býti. Sentralvirðissetningurin. Felags býti. Royndir, sýni og populatiónir. Sýnisfunktiónir. Estimatorar og sýnisbýti, standarafeilur og konfidensmark. Nakrir grundleggjandi estimatorar. Maximum-likelihood metodan. Linjulig og ólinjulig minstukvadrat metodur. Test av hypotesum.		**Subject**	Numerical methods: Algebraic and transcendental equations, Newton's methods. Simultaneous linear equations, Gaussian elimination and Gauss–Seidel iteration. Numerical integration, trapezium and Simpson's rules, Gaussian integration, Monte Carlo methods. Finite differences. Differential and difference equations. Taylor series solutions, prediction and correction, Runge–Kutta methods. Higher-order and partial differential equations. Matlab software environment. Probability and statistics: Random variables and distributions. Important discrete and continuous distributions. The central limit theorem. Joint distributions. Experiments, samples and populations. Sample statistics. Estimators and sampling distributions, standard errors and confidence limits. Some basic estimators. Maximum-likelihood method. Linear and non-linear least squares. Hypothesis testing.	
Undirvísing	Fyrilestrar og uppgávurokning. Venjing við forritinum Matlab.		**Teaching**	Lectures and exercises. Training with Matlab software.	
Døming	Skrivlig prótvtøka í fýra tímar. Hjálparamboð loyvd. Stóruppgávur. Prótvtøkuúrslit sambært galdandi prótvalsstiga.		**Evaluation**	Four-hour written examination. Auxiliary exam material allowed. The existing grade scale will be used. Exercise reports.	
Lestrarlisti	1.K. F. Riley, M. P. Hobson S. J. Bence: "Mathematical Methods for Physics and Engineering", 3rd ed., Cambridge University Press, 2006 2.Supplerandi tilfar um numeriskar metodur. 3.Tilfar um forritið Matlab.		**Material**	1.K. F. Riley, M. P. Hobson S. J. Bence: "Mathematical Methods for Physics and Engineering", 3rd ed., Cambridge University Press, 2006 2.Supplementary material on numerical methods. 3.Material on Matlab software.	
Samskifti	Petur Zachariassen; email: peturz@setur.fo		**Contact**	Petur Zachariassen; email: peturz@setur.fo	

⮜ Forsíða / Front page **Næsta síða / Next page ➢**

Heiti	**Operativskipanir**		**Title**	**Operating System**	
Skeið nr.: **3928.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3926.08**	**Course no.:** **3928.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3926.08**
Endamál	At geva ein inngang til strukturar og funktión av operativskipanum og veitir studentinum kunnleika til at handfara telduskipanir. Operativskipan er tann parturin av telduforritanarbúnaðinum, ið gevur brúkaranum eitt einfalt modell av telduni við atliti til skipan av dátutilfeingi og telduskipan.		**Objective**	It is the aim of the course to introduce the structure and function of operating systems and provide the student with skills for handling computer systems. The operating system is the layer of software providing the user a simple model of the computer for managing the resources and the computer system.	
Evni	Yvirlit yvir operativskipanir og teldur. Lýsing og stýring av prosessum, træðrum og ”mikrokernel”, samtíðarfyribrigdi og sínámillum úthýsing, synkronisering,”deadlock” og útsvølting, minnisstýring, virtuelt minni. Tíðarfyriskipan, einkultprosessari, fleirprosessarar og verulig-tíð fyriskipan. Inngangs og útgangs markamót. Stýring av diskum og fílum. Sundurlutaðar skipanir. Trygd og kryptering.		**Subject**	Overview of operating systems and computers. Processes, description and control, threads and microkernel, concurrency, mutual exclusion, synchronization, deadlock and starvation. Memory management, virtual memory. Scheduling, uniprocessors, multiprocessors and real-time scheduling. Input/output interfaces. Disk and file management. Distributed systems. Security and encryption.	
Undirvísing	Fyrilestrar, uppgávur, smáar verkætlanir, telduvenjingar við góðkenning av frágreiðing		**Teaching**	Lectures, problem solving, small projects, computer exercises, with approval of reports.	
Døming	Skrivlig prótvøka í fýra tímar við hjálparamboðum. Prótvøkuúrslit sambært galdandi próvtalsstiga.		**Evaluation**	4 hour written examination with auxiliary material. The existing grade scale will be used.	
Lestrarlisti	1. W.Stallings, ”Operating Systems”, Prentice Hall International 2008 2. A.S.Tanenbaum, “Modern Operating System”, Prentice Hall 2001 3. A. Silberschatz, P. Galvin, “Operating System Concepts”, Addison Wesley 1998		**Material**	1. W. Stallings, ”Operating Systems”, Prentice Hall International 2008 2. A.S.Tanenbaum, “Modern Operating System”, Prentice Hall 2001 3. A. Silberschatz, P. Galvin, “Operating System Concepts”, Addison Wesley 1998	
Samskifti	Magnus Danielsen, email: magnusd@setur.fo		**Contact**	Magnus Danielsen, email: magnusd@setur.fo	

⮜ Forsíða / Front page

Næsta síða / Next page ➢

Heiti	Signalfrøði		Title	Signal processing	
Skeið nr.: 3924.08	ECTS: 7.5	Fyritreyt: Skeið nr. 3004.08	Course no 3924.08	ECTS: 7.5	Prerequisites: Course no. 3004.08
Endamál	At geva ein inngang til greining og viðgerð av signalum av serligum týdningi fyri nýtslu í KST-skipanum, so sum fjarskifti, multimedia, seismikk, instrumentering, telemedisin og tekniskum stýriskipanum.		**Objective**	An introduction to analogue and digital signal analysis and processing, of importance for ICT applications, e.g. telecommunications, multi-media, seismic, instrumentation, telemedicine, and control systems.	
Evni	Ein inngangur til kontinuert og diskret signal. Tíðarumboðaðan. linjurættar tíðaróheftar signalskipanir, differentiallíkningar og differenslíkningar, konvolutión, blokdiagram og støðuvariablar. Signalini verða greinað í fýra bólkum av signalum og tilsvarandi Fourierumboðan, definitiónir, eginleikar og øvugta prosess: 1.Kontinuert tíð Fourierrøð (FS) fyri periodisk signal. 2.Disktet tíð Fourierrøð (DTFS) fyri periodisk signal. 3.Kontinuert tíð Fourier transformur (FT) fyri ikki-periodisk signal. 4.Diskret tíð Fourier transformur (DTFT) fyri ikki-periodisk signal. Digitalisering av analogum signalum: sampling og endurskapan, aliasing, kvantisering og koding. Stokastisk signalgreining. Z-transformatión fyri diskret signal, definitión, eginleikar, øvugt z-transformatión. Diskret Fouriertransform (DTF) og "Fast Fourier transform" (FFT). Samanburður við Laplace- og z-transformar. Signalviðgerð verður nýtt tekniskt til spektrala greining, skipanar-greining og -realisering, yvirføringsfunktiónir, stabilitet, konvolutión, dekonvolutión, auto- og krosskorrelatión. Analog og digital lágpass-, hápass-, bandpass- og band-stoppfiltur verða viðgjørd. Digitalu filtrini umfata IIR og FIR filtur. Dømi, t.d. í elektroniskum rásum, fjarskifti, seismikki, audio spektrogrammum og stýriskipanum.		**Subject**	General introduction to continuous and discrete signals. Time domain. Linear-time-invariant systems. Differential and difference equations, convolution, block diagrams and state variables. Four groups of signals and corresponding Fourier representations, definitions, properties and inversion process: 1.Continuous-time Fourier series (FS) for periodic signals. 2.Discrete-time Fourier series (DTFS) for periodic signals. 3.Continuous-time Fourier transforms (FT) for non-periodic signals. 4.Discrete-time Fourier transform (DTFT) for non-periodic signals. Digitization of analogue signals: sampling and reconstruction, aliasing, quantization, and coding. Stochastic signal analysis and processing. The z-transform for discrete signals, definition, properties, inverse z-transform. Discrete Fourier Transform (DFT) and Fast Fourier Transform (FTT). Relation of Fourier representations to Laplace and z-transforms. Signal processing is applied technically for spectral analysis, systems analysis and realization, transfer functions, stability, convolution, de-convolution, auto- and cross-correlation. Analogue and digital filters are treated, including low-pass, high-pass, band-pass, and band-stop filters. Digital IIR and FIR filters. Application e.g. in electronic circuits, seismic, communication systems, audio spectrograms, and control systems.	
Undirvísing	Fyrilestrar, uppgávur, starvsstovuvenjingar við frágreiðing.		**Teaching**	Lectures, problems, and laboratory exercises with approval of reports.	
Døming	4 tímar skrivlig prótøka við hjálparamboðum. Galdandi prótvalsstigi		**Evaluation**	4-hour written examination with auxiliary material. Existing grade scale.	
Lestrarlisti	1.S. Haykin, B. V. Veen: "Signal and Systems", 2nd ed., Wiley 2005 2.J.G.Proakis, D.G.Manolakis:Digital Signal Processing, 4th ed, 2007 3.P. Denbigh: "System Analysis & Signal Processing", A-W 1998 4.H.P.Hsu:"Signals and Systems", Shaums's ser. McGraw-hill 1995 5.H. Baher: "Analogue and Digital Signal Processing", Wiley 2001		**Material**	1.S. Haykin, B. V. Veen: "Signal and Systems", 2nd ed. Wiley 2005 2.J.G.Proakis, D.G.Manolakis: Digital Signal Processing, 4th ed, 2007 3.P. Denbigh: "System Analysis & Signal Processing", A-W 1998 4.H. P. Hsu: "Signals and Systems", Shaums's ser. McGraw-hill 1995 5.H. Baher: "Analogue and Digital Signal Processing", Wiley 2001.	
Samskifti	Magnus Danielsen, email: magnusd@setur.fo		**Contact**	Magnus Danielsen, email: magnusd@setur.fo	

➤ Forsíða / Front page
Næsta síða / Next page ➤

Heiti	**Dátugreining**		**Title**	**Data analysis**	
Skeið nr.: **3006.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3004.08, 3926.08**	**Course no.:** **3006.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3004.08, 3926.08**
Endamál	Innan náttúruvísindi og tøkni er tørvur á at handfara stórar og fløktar dátumongdir, eitt nú við stað- og tíðarbundnum dátum frá sjálvvirknum mátitólum. Ymsar teldufrøðiligar og hagfrøðiligar metodur verða brúktar til tess at kunna vátta ávís modell ella til at 'avdúka' møguligar ókendar samanhangir í dátutilfarinum. Í eini skeiðsverkætlan verður eisini høvi til at greina veruligar mátingar innan ávíst seriøki við hóskandi serforriti.		**Objective**	In natural sciences and technology there is a need for handling large and complex data sets, including e.g. space- and time-related data from automatic measuring instruments. Various computing and statistical methods are used to confirm certain models or to disclose possible unknown relations in the data material. A small course project will include the opportunity to analyze a real set of measurements within a particular field using suitable software.	
Evni	Dátur: objekt, eykenni, góðska, undanviðgerð og mát fyri einsleika og ymiskleika. Klassifisering: grundhugtøk, avgerðartrø, myndlameting, reglugrundað og næsti-granni klassifiserari, tilgjørd neural netverk. Sambandsgreining: grundhugtøk, títtar lutmongdir, mynstur og algoritmur. Bólkagreining: grundhugtøk, hierarkisk og lutvís bólking, K-means, agglomerativ hierarkisk bólking, DBSCAN, bólkameting og prototypugrundað, tættleikagrundað og grafgrundað bólking.		**Subject**	Data objects, attributes, quality, preprocessing, and similarity and dissimilarity measures. Classification: basic concepts, decision trees, model evaluation, rule-based, nearest-neighbour classifiers, artificial neural networks. Association analysis: basic concepts, frequent item-sets, patterns and algorithms. Basic concepts of cluster analysis, hierarchical and partial clustering, K-means, agglomerative hierarchical clustering, DBSCAN, cluster evaluation, and prototype-based and graph-based clustering.	
Undirvísing			**Teaching**		
Døming			**Evaluation**		
Lestrarlisti			**Material**		
Samskifti	Petur Zachariassen; email: peturz@setur.fo		**Contact**	Petur Zachariassen; email: peturz@setur.fo	

⮜ Forsíða / Front page
⮜ Vallærugreinar / Optional courses

Næsta síða / Next page ➢

Heiti	**Alisfrøði 3**		**Title**	**Physics 3**	
Skeið nr.: **3009.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3007.08**	**Course no.:** **3009.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3007.08**
Endamál	At geva studentunum kunnleika til grundleggjandi partar av nýggjaru alisfrøðini.		**Objective**	To give an introduction to the fundamentals of modern physics.	
Evni	Spesiella relativitetsástøði, kvantisering av ljósi, løðing, impulsi, impulsmomenti og orku. Geisling í holrúmi. Fotoelektrisk effekt. Røntgen geisling. Compton effekt. Atommyndlarnir hjá Rutherford og Bohr. Rydbergs formul. Røntgen spektur. Bragg reflektión. Royndin hjá Millikan. Royndin hjá Franck-Hertz. De Broglie formlar. Aldupakkar. Elektronaldur. Elektroninterferensur. Óvissusambandið hjá Heisenberg. Komplementaritetsprinsippið. Schrødinger-líkningin í einari og í fleiri dimensiónum. Potentialbrunnar. Harmonisk sveiggj í kvantumekanikki. Operatorar. Eginvektorar. Væntað virði. Impulsmoment. Magnetisk moment. Spin. Symmetri. Skeiðbundna skipanin. Flyting millum orkustøður. Eksiteraðar støður. Absorbtión. Stimulerað emmissión. Zeemann effekt. Evnafrøðiligar bindingar. Mýl spektur. Klassisk ástøði um metalir. Kinetisk gass ástøði. Kvantustatistikkur. Band ástøði hjá føstum evnum. Grundstøður hjá atomkjarnum. Skal-myndulin. Mossbauer effekt. Geislavirkni. Kjarnureaktiónir. Elementarbitlar.		**Subject**	Special relativity, quantization of light, charge, linear momentum, angular momentum and energy. Blackbody radiation. Photoelectric effect. X-rays. Compton effect. Atom models of Rutherford and Bohr. Rydberg formula. X-ray spectra. Bragg scattering. Millikan's oil drop experiment. The Frank-Hertz experiment. De Broglie relations. Wave packets. Electron waves. Electron interference. Heisenberg uncertainty relations. The complementarity principle. The Schrödinger equation in one and three dimensions. Potential barriers. Harmonic oscillator. The Hydrogen atom. Operators. Eigenfunctions. Expectation value. Angular momentum. Magnetic moment. Spin. Symmetry. The periodic table. Transition between energy states. Excited states. Absorption. Stimulated emission. Zeemann effect. Chemical bonds. Molecular spectroscopy. Classical metal theory. Kinetic gas theory. Quantum statistics. Band theory of solids. Ground state properties of nuclei. The shell model. Mössbauer effect. Radioactivity. Nuclear reactions. Elementary particles.	
Undirvísing	Fyrilestrar og uppgávurokning.		**Teaching**	Lectures and Problem Solving.	
Døming	Fýra tíma skrivlig roynd. Øll vanlig hjálparamboð eru loyvd. Prótvøkuúrslit sambært galdandi prótvalsstiga.		**Evaluation**	Written examination of four hours duration. Reference material permitted. The existing grade scale will be used.	
Lestrarlisti	P.A. Tipler, R.A. Llewellyn: Modern Physics, 4th ed, W. H. Freemann and Company, New York, 2003.		**Material**	P.A. Tipler, R.A. Llewellyn: Modern Physics, 4th ed., W. H. Freemann and Company, New York, 2003.	
Samskifti	Hans Pauli Joensen; email: hanspj@setur.fo		**Contact**	Hans Pauli Joensen; email: hanspj@setur.fo	

⮜ Forsíða / Front page
⮜ Vallærugreinar / Optional courses

Næsta síða / Next page ➢

Heiti	**Støddfrøði 4**		**Title**	**Mathematics 4**	
Skeið nr.: **3005.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3004.08**	**Course no.:** **3005.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3004.08**
Endamál	At kunna studentarnar um partiellar differentiallíkningar og kompleksar variablar.		**Objective**	To give the students an introduction to partial differential equations and complex variables.	
Evni	Partiellar differentiallíkningar. Generellar og partikulerar loysnir. Aldu- og diffusiónslíkningar. Separatión av variablum, superposition, integral transform metodur, Green funktiónir. Variatiónsrokning, Euler–Lagrange líkning, eginviríði problem. Integral líkningar. Kompleksar variablar, Cauchy–Riemann relatiónir, konformar transformatiónir, Cauchy setningurin, Cauchy integral formul, Taylor og Laurent rekkjur, residue setningurin. Nýtsla av kompleksum variablum. Tensorar.		**Subject**	Partial differential equations. General and particular solutions. The wave and diffusion equations. Separation of variables, superposition, integral transform methods, Green's functions. Calculus of variations, Euler–Lagrange equation, eigenvalue problems. Integral equations. Complex variables, Cauchy–Riemann relations, conformal transformations, Cauchy's theorem, Cauchy's integral formula, Taylor and Laurent series, residue theorem. Applications of complex variables. Tensors.	
Undirvísing	Fyrilestrar og uppgávurokning.		**Teaching**	Lectures and exercises.	
Døming	Skrivlig prótøka í fýra tímar. Hjálparamboð loyvd. Prótøkuúrslit sambært galdandi prótvalsstiga.		**Evaluation**	Four-hour written examination.Auxiliary exam material allowed. The existing grade scale will be used.	
Lestrarlisti	K. F. Riley, M. P. Hobson S. J. Bence: "Mathematical Methods for Physics and Engineering", 3rd ed. Cambridge University Press, 2006		**Material**	K. F. Riley, M. P. Hobson S. J. Bence: "Mathematical Methods for Physics and Engineering", 3rd ed. Cambridge University Press, 2006	
Samskifti	Petur Zachariassen; email: peturz@setur.fo		**Contact**	Petur Zachariassen; email: peturz@setur.fo	

⮜ Forsíða / Front page
⮜ Vallærugreinar / Optional courses

Næsta síða / Next page ➢

Heiti	Objektrættað forritan		Title	Object-oriented programming	
Skeið nr.: 3929.08	ECTS: 7.5	Fyritreyt: Skeið nr. 3926.08	Course no.: 3928.08	ECTS: 7.5	Prerequisites: Course no. 3926.08
Evni	Skeiðslýsing í umbúnað.		Subject	Description to be written	

Heiti	Dátugrunnar og skipannarmenning		Title	Databases and system development	
Skeið nr.: 3930.08	ECTS: 7.5	Fyritreyt: Skeið nr. 3926.08	Course no.: 3930.08	ECTS: 7.5	Prerequisites: Course no. 3926.08
Evni	Skeiðslýsing í umbúnað.		Subject	Description to be written	

Heiti	Web: design og samskifti		Title	The Web: design and communications	
Skeið nr.: 3931.08	ECTS: 7.5	Fyritreyt: Skeið nr. 3926.08, 3927.08	Course no.: 3931.08	ECTS: 7.5	Prerequisites: Course no. 3926.08, 3927.08
Evni	Skeiðslýsing í umbúnað.		Subject	Description to be written	

⮜ Forsíða / Front page
⮜ Vallærugreinar / Optional courses

Næsta síða / Next page ➢

Heiti	**Nútíðar samskiftisskipanir**		**Title**	**Modern communications**	
Skeið nr.: **3932.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3927.08, 3924.08**	**Course no:** **3932.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3927.08, 3924.08**
Endamál	At geva víðarigangandi innlit í hugtøk og hættir fyri signal, spektrum og koding í samskiftisskipanum við analogari og digitalari modulatión, brúkt í nútímans kunningartøkni skipanum.		**Objective**	Gives an advanced description of principles, signals, spectra and coding in communication technology, including analogue and digital modulation techniques applied to modern information systems.	
Evni	Fyribrigdi og hættir í samskiftisskipanum, umfatandi signal- og skipanargreinings hættir. Spektralir eginleikar, transmissión og filtrering. Framkomin viðgerð av modulatión til analog og digitalar skipanir og modulatorar. Linjurøtt CW-modulatión, AM, DSB, SSB, frekvensumforming, demodulatión og detektión. Eksponentiel CW-modulatión, PM, FM, bandbreidd, signalórógv, signalgerð, detektión og interferens. CW-modulatións-skipanir, móttakarar, FDM, PLL. Digital modulatiónsskipanir, sampling, PAM, PPM, TDM. Transmissiónsavmarkingar í digitalum basisbands skipanum, eygasignalmynstur, óljóð og BER fyri binerar PCM-skipanir. Tøkni fyri PCM-skipanir, kvantiseringsóljóð, digital multipleksing.		**Subject**	Principles of communications. Signal- and system-analysis methods. Spectral properties, transmission and filtering. Advanced treatment of modulation techniques for analogue and digital systems. Modulators. Linear CW-modulation, AM, DSB, SSB, frequency conversion, demodulation and detection. Exponential CW-modulation, PM, FM, bandwidth, distortion, signal generation, detection and interference. CW-modulation systems, receivers, FDM, PLL. Digital modulation systems, sampling, PAM, PPM, TDM. Transmission limitations in digital base-band systems, eye pattern, noise and BER for binary PCM systems. Principles of PCM systems, quantization noise, digital multiplexing, coding and error-correcting codes.	
Undirvísing	Fyrilestrar, uppgávur, smáar verkætlanir, starvsstovuvenjingar við góðtøku av frágreiðing.		**Teaching**	Lectures, problem solving, small projects, and laboratory exercises with approval of reports.	
Døming	Skrivlig prótvøka í fýra tímar við hjálparamboðum. Prótvøkuúrslit sambært galdandi prótvalsstiga.		**Evaluation**	Four-hour written examination with auxiliary material. The existing grade scale will be used.	
Lestrarlisti	1. B.P.Lathi, “Modern Digital and Analog Communication Systems”, 3rd ed. Oxford Academic Press 1998. 2. A.B.Carlson, P.B.Crilly, J.C.Rutledge,”Communication Systems: An Introduction to Signals and Noise in Electrical Communication”, 4th ed., McGrawHill. 3. J.G.Proakis, M.Salehi,” Communication Systems Engineering”, Prentice-Hall 2001		**Material**	1. B. P. Lathi: “Modern Digital and Analog Communication Systems”, 3rd ed. Oxford Academic Press 1998. 2. A. B. Carlson, P. B. Crilly, J. C. Rutledge: ”Communication Systems: An Introduction to Signals and Noise in Electrical Communication”, 4th ed., McGrawHill. 3. J. G. Proakis, M. Salehi: ” Communication Systems Engineering”, Prentice-Hall 2001	
Samskifti	Magnus Danielsen, email: magnusd@setur.fo		**Contact**	Magnus Danielsen, email: magnusd@setur.fo	

⮜ Forsíða / Front page
⮜ Vallærugreinar / Optional courses

Næsta síða / Next page ➢

½Heiti	**“Distributed embedded” skipanir**		**Title**	**Distributed embedded systems**	
Skeið nr.: **3933.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3922.08, 3927.08, 3928.08**	**Course no.:** **3933.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3922.08, 3927.08, 3928.08**
Endamál	Skeiðið er ein framkomin inngangur til hugtøk og tøknifrøðiligar hættir til uppbygging og handfaring av ”Distributed embedded” skipanum í realtíðar nýtslum.		**Objective**	The course is an advanced introduction to principles and practice of distributed embedded system design for real-time applications**.**	
Evni	Realtíðarumhvørvi, alheimstíð, modellering av realtíðarskipanum, realtíðar eindir og myndir, feiltoleransa, realtíðarsamskifti, tíðar triggaðar protokollir, inn/útgangs portur. Realtíðar virkandi skipanir, realtíðar skráseting, skipanar design.		**Subject**	Real-time environment, global time, modelling real-time systems, real-time entities and images, fault tolerance, real-time communication, time-triggered protocols, input/output, Real-time operating systems, real-time scheduling, system design.	
Undirvísing	Fyrilestrar, uppgávur, smáar verkætlanir, starvsstovuvenjingar við góðtøku av frágreiðing.		**Teaching**	Lectures, problem solving, and laboratory exercises. Approval of reports.	
Døming	Skrivlig prótøka í fýra tímar við hjálparamboðum. Prótøkuúrslit sambært galdandi prótalsstiga.		**Evaluation**	Four-hour written examination with auxiliary material. The existing grade scale will be used.	
Lestrarlisti	1. Tim Wilmhurst, “Designing embedded systems with PIC Microcontrollers”, Elsevier 2006 2. L. D. Jasio, D. Ibrahim, J. Morton, M. Bates, J. Smith, D. W. Smith, C. Hellebuyck, “PIC Microcontrollers”, Elsevier 2006. 3. H. Kopetz, ”Real-Time Systems: Design Principles for Distributed Embedded Applications”, 1st ed. Kluwer Academic Publishers 1997.		**Material**	1. Tim Wilmhurst, “Designing embedded systems with PIC Microcontrollers”, Elsevier 2006 2. L. D. Jasio, D. Ibrahim, J. Morton, M. Bates, J. Smith, D. W. Smith, C. Hellebuyck, “PIC Microcontrollers”, Elsevier 2006. 3. H. Kopetz, ”Real-Time Systems: Design Principles for Distributed Embedded Applications”, 1st ed. Kluwer Academic Publishers 1997.	
Samskifti	Magnus Danielsen, email: magnusd@setur.fo		**Contact**	Magnus Danielsen, email: magnusd@setur.fo	

⮜ Forsíða / Front page
⮜ Vallærugreinar / Optional courses

Næsta síða / Next page ➢

Heiti	**Fartelefon og tráðleysar samskiftisskipanir**		**Title**	**Mobile and wireless communications**	
Skeið nr.: **3934.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3924.08, 3927.08**	**Course no.:** **3934.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3924.08, 3927.08**
Endamál	At geva eina ein umfatandi inngang til digital fartelefon og tráðleys fjarskiftisnet. Fartelefon og tráðleyst fjarskifti eru vorðin ein samangrógvin partur av nútíðar tilveruni, frá alheimsumfatandi selluskipaða fartelefon til staðbundin og persónsdefinerað netverk.		**Objective**	This course provides a comprehensive introduction to digital mobile and wireless networks. Mobile and wireless communication has become a ubiquitous part of modern life, from global cellular telephone systems to local and even personal-area networks.	
Evni	Skeiðið viðger radioumhvørvis og –útbreiðsluviðurskifti fyri fartelefon og tráðleyst fjarskifti, selluuppbygging, dynamiska kanaltilluting, effektstýring, modulatiónstøkni, multiatgongd við FDMA, TDMA og CDMA, umframt koding, feilfinning og –rætting, aðru generatións skipanir, GSM, atgongdsansing, sjálvvirki radiostøðarskifti, 2,5G (GPRS) og 3G (UMTS) farfjarskiftis skipanir, pakkaflutt dátu, atgongd og tíðarætlanar tøkni og tráðleys lokalnet.		**Subject**	Mobile-radio environment, propagation phenomena, the cellular concept, dynamic channel allocations, power control, modulation techniques, multiple access FDMA, TDMA, CDMA, coding, error detection and error correction, second-generation systems, GSM, admission control, handoffs, 2.5G (GPRS), and 3G (UMTS) mobile wireless systems, packet-switched data, access and scheduling techniques, wireless LAN.	
Undirvísing	Fyrilestrar, uppgávur, smáar verkætlanir, starvsstovuvenjingar við góðtøku av frágreiðing.		**Teaching**	Lectures, problem solving, small projects, and laboratory exercises with approval of reports.	
Døming	Skrivlig prótøka í fýra tímar við hjálparamboðum. Prótøkuúrslit sambært galdandi prótalsstiga.		**Evaluation**	Four-hour written examination with auxiliary material. The existing grade scale will be used.	
Lestrarlisti	1. Mischa Schwartz, “Mobile Wireless Communications”, Cambridge University Press, 2004 2. A. Molish, “Wireless Communications”, Wiley-IEEE Press 2005 3. Martin Sauter, “Communication Systems for the Mobile Information Society” Wiley, 2006		**Material**	1. Mischa Schwartz, “Mobile Wireless Communications”, Cambridge University Press, 2004 2. A. Molish, “Wireless Communications”, Wiley-IEEE Press 2005 3. Martin Sauter, “Communication Systems for the Mobile Information Society” Wiley, 2006	
Samskifti	Magnus Danielsen, email: magnusd@setur.fo		**Contact**	Magnus Danielsen, email: magnusd@setur.fo	

⮜ Forsíða / Front page
⮜ Vallærugreinar / Optional courses

Næsta síða / Next page ➢

Heiti	**Stýriskipanir**		**Title**	**Control systems**	
Skeið nr.: **3935.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3923.08, 3924.08, 3926.08**	**Course no.:** **3935.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3923.08, 3924.08, 3926.08**
Endamál	Í vinnulívinum eru elektroniskar stýriskipanir lyklaloysnin fyri effektivari og tryggari framleiðslu og funktión. Í skeiðinum verður dentur lagdur á nútímans stýriskipanir við støði í signalfrøði, elektroniskum følarum, teldum og instrumenteringsskipanum. Skeiðið umfatar analoga og digitala dynamiska stýring og støðustýring.		**Objective**	In industry, electronic control systems are the key to efficient and reliable production and functions. Focus in this course is on modern control systems based on signal processing, electronic sensors, computer and instrumentation systems. Included are analogue and discrete dynamic control systems and state space control.	
Evni	Skeiðslýsing í umbúnað.		**Subject**	Description to be written.	
Undirvísing	Fyrilestrar, uppgávur, smáar verkætlanir, starvsstovuvenjingar við góðkenning av frágreiðing.		**Teaching**	Lectures, problem solving, small projects, laboratory exercises with approval of reports.	
Døming	Skrivlig prótvøka í fýra tímar við hjálparamboðum. Prótvøkuúrslit sambært galdandi prótvalsstiga.		**Evaluation**	4 hour written examination with auxiliary material. The 13-scale is used.	
Lestrarlisti	1. C. L. Phillips, R. D. Harbor: "Feedback Control Systems." Prentice Hall 2. Notur		**Material**	1. C. L. Phillips, R. D. Harbor: "Feedback Control Systems." Prentice Hall 2. Notes	
Samskifti	Magnus Danielsen, email: magnusd@setur.fo		**Contact**	Magnus Danielsen, email: magnusd@setur.fo	

⮜ **Forsíða / Front page**
⮜ **Vallærugreinar / Optional courses**

Næsta síða / Next page ⮞

Heiti	**El-orkuskipanir**		**Title**	**Electrical power systems**	
Skeið nr.: **3936.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3921.08, 3923.08, 3008.08**	**Course no.:** **3936.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3921.08, 3923.08, 3008.08**
Endamál	At geva ein inngang til el-orkuskipanir og eina grundleiggjandi fatan av teirra ómissandi týdningi fyri samfelag og vinnu. Skeiðið umfatar hættir um modullering og útrokningar til el-orkuframleiðslu, ein- og trýfasu-skipanir, ellinjur, umforming og nýtslur, herundir el-maskinur.		**Objective**	The course is an introduction to electrical power systems providing a comprehensive understanding of its indispensable importance to Society. Included are methods for calculation and modelling of electric energy production, single- and three-phase systems, transmission, conversion, and applications including electric machines.	
Evni	Grundleggjandi hugtøk um el-orkuskipanir. Definitión av kompleksari, reellari og reaktivari effekt. Ein- og trýfasu el-orkuskipanir. Ein- og trýfasu streymrásir. Ideellir transformatorar. Ein- og trýfasu veruligir transformatorar. Inngangur til DC generatorar og motorar, einfasu og trýfasu synkronar og asynkronar generatorar og motorar og teirra eginleikar í stationerum orkuskipanum. Javngildisrásir fyri motorar. Hiting og gagnstig. Gerð av el-orku við dømum frá vatnorku, termiskari orku, kjarnorku og vindmyllum. Flutningur og útbreiðsla av el-orku. Greining av orkuflutnings. Nýtsla av el-orku. Harmoniskir. Starvsstovuvenjingar: Sterksteymsmátingar, DC-maskinan, trý-fasaður asynkronmotorur, ein-fasaður asynkronmotorur.		**Subject**	General and basic concepts in power-system engineering. Definition of complex, real and reactive power. Single- and three-phase systems. Single- and three-phase power lines. Three-phase circuits. Ideal transformers. Single- and three-phase practical transformers. Introduction to DC-generators and motors, single- and three-phase synchronous and asynchronous generators and motors, and their operation in a stationary power system. Equivalent circuits of motors. Efficiency and heating. Generation of electrical energy: hydropower, thermal and nuclear stations, and windmills. Transmission and distribution of electrical energy. Power-flow analysis. Applications of electrical energy. Harmonics and the distortion power factor. Laboratory exercises: Electric power measurements, DC-machine, three-phase asynchronous, and single-phase asynchronous motor.	
Undirvísing	Fyrilestrar, uppgávur, starvsstovuvenjingar við góðkenning av frágreiðing.		**Teaching**	Lectures, problems, laboratory exercises with aproval of reports.	
Døming	Skrivlig prótvtøka í fýra tímar við hjálparamboðum. Prótvtøkuúrslit sambært galdandi prótvalsstiga.		**Evaluation**	Four-hour written examination with auxiliary material. The existing grade scale will be used.	
Lestrarlisti	Theodore Wildi: ”Electrical Machines, Drives, and Power Systems”, 5th ed. Prentice Hall, 2002.		**Material**	Theodore Wildi: ”Electrical Machines, Drives, and Power Systems”, 5th ed. Prentice Hall, 2002.	
Samskifti	Magnus Danielsen, email: magnusd@setur.fo		**Contact**	Magnus Danielsen, email: magnusd@setur.fo	

⮜ Forsíða / Front page
⮜ Vallærugreinar / Optional courses
Næsta síða / Next page ➢

Heiti	**Orka – tilfeingi og nýtsla**		**Title**	**Energy resources and applications**	
Skeið nr.: **3937.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3008, 3923**	**Course no.:** **3937.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3008, 3923**
Endamál			**Objective**		
Evni	**Skeiðslýsing í umbúnað.**		**Subject**	**Description to be written**	
Samskifti	**Magnus Danielsen, email: magnusd@setur.fo**		**Contact**	**Magnus Danielsen, email: magnusd@setur.fo**	

⮜ Forsíða / Front page
⮜ Vallærugreinar / Optional courses

Næsta síða / Next page ➢

Heiti	Dátunet		Title	Data networks	
Skeið nr.: 3938.08	ECTS: 7.5	Fyritreyt: Skeið nr. 3927.08	Course no.: 3938.08	ECTS: 7.5	Prerequisites: Course no. 3927.08
Endamál			Objective		
Evni	Skeiðslýsing í umbúnað.		Subject	Description to be written	

Heiti	”Sortware” verkfrøði		Title	Sortware engineering	
Skeið nr.: 3939.08	ECTS: 7.5	Fyritreyt: Skeið nr. 3928.08	Course no.: 3939.08	ECTS: 7.5	Prerequisites: Course no. 3928.08
Endamál	Í nútímans KST skipanum er ”software” vanliga ikki longur smá einfald forrit, men umfatandi forritsbúnaður bæði í støddd og kompleksiteti, og krevur hann ofta nógvar forritarar at menna skipanirnar til nógv brúksendamál og nógvar brúkarar, umframt at verða gjørdur í stórum tali. Til at stýra hesum samansetta virksemi mugu setast strong krøv til skipanirnar um at vera lættar at umsita og nýta, umframt at vera álítandi og effektivar. Hetta verður uppfylt við ”software” verkfrøði, ið umfatar reglufasta ”software” menning og framleiðslu.		Objective	In modern ICT systems, software packages are not usually any longer made up of small, easily manageable, single–person-developed programmes. They have become extensive systems, both in size and complexity, often requiring several persons for developments for a multitude of applications, for a multitude of users, and in addition for delivery in large quantities. Managing this complexity puts strong requirements on the system, on reliability, maintainability, efficiency and usability, which are fulfilled using software engineering methods that involve systematic software development and production.	
Evni	Skeiðslýsing í umbúnað.		Subject	Description to be written	

➢ Forsíða / Front page
➢ Vallærugreinar / Optional courses

Næsta síða / Next page ➢

Heiti	"Software" arkitekturur		Title	Software architecture	
Skeið nr.: **3941.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3928.08**	**Course no.:** **3941.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3928.08**
Endamál	"Software arkitekturur" viðger meginreglurnar fyri støðinum at skilja stórskala strukturar av "software" skipanum. Frá rótini í kvalitativari frágreiðslu av empiriskt eygleiddum hentum fyriskipanum, er "software" arkitekturur ment til at vera læran, ið fevnir um breiða viðgerð av uppritum, amboðum og greiningarhættum.		**Objective**	Software architecture has emerged as the field that deals with the principles of understanding large-scale structures of software systems. From its roots in qualitative descriptions of empirically observed useful system organizations, software architecture has matured to encompass a broad set of notations, tools, and analysis techniques. It offers concrete guidance for complex software design and development.	
Evni	Skeiðslýsing í umbúnað.		**Subject**	Description to be written	

Heiti	KT strategi		Title	IT strategy	
Skeið nr.: **3942.08**	**ECTS:** **7.5**	**Fyritreyt:** **Skeið nr. 3928.08**	**Course no.:** **3942.08**	**ECTS:** **7.5**	**Prerequisites:** **Course no. 3928.08**
Endamál	Viðgerð av KT strategi veitir strategiskt perspektiv um menning, nýtslu og stýring av KT, og umfatar strategiska KT -planlegging í vinnusamanhangi, handfaring av relevantum amboðum og tøkni til brúk í KT, at seta strategiir upp, har KT hevur týdningamiklan leiklut, og KT relevans fyri vinnuleiðarar.		**Objective**	The subject of IT strategy provides a strategic perspective on the development, use and management of IT, including strategic IT planning in different business contexts, handling relevant tools and techniques for using IT, formulating strategies where IT plays an important role and IT relevance for business leaders.	
Evni	Skeiðslýsing í umbúnað.		**Subject**	Description to be written	

⮜ Forsíða / Front page
⮜ Vallærugreinar / Optional courses

Næsta síða / Next page ➢

Heiti	**Bachelor verkætlan og ritgerð – KT-verkfrøði**		**Title**	**Bachelor project and thesis – ICT Engineering**	
Skeið nr.: **3990.08**	**ECTS:** **22.5**	**Fyritreyt:** **157,5 ECTS, íroknað øll bundin skeið**	**Course no.:** **3990.08**	**ECTS:** **22.5**	**Prerequisites:** **157.5 ECTS, including all compulsory courses**
Endamál	Bachelorlesturin verður lokin við at gera eina verkætlan um eitt valt evni í KT-verkfrøði og skriva eina samanhangandi og greiða frágreiðing um arbeiðið. Frágreiðingin skal verða skipað sambært vanligum reglum í vísindaligum frágreiðingum.		**Objective**	The Bachelor study is concluded by carrying out an original project on an optional subject in ICT engineering, and writing a comprehensible report about the work performed according to usual norms for scientific technical reports.	
Evni	Verkætlanin umfatar eina útgreinda lýsing og viðgerð av tillutaðu verkætlannaruppgávuni, mátingar við mátitólum, um tað er viðkomandi, savn av tilfari, greining av spurningum, og møguliga gerð ella kanning av skipan ella telduforriti. Ein víðfevnd ritgerð verður skrivað, og skal hon innihalda viðkomandi tekst, myndir, talvur, samandrátt, innihaldsyvirlit, indeks, og ein lista yvir tekn. Ritgerðin skal umfata skildømandi og víðfevnda umráðingar og viðgerð við niðurstøðum um úrslit, umframt samanberingar við áður vunnin úrslit, t.d. viðgjørd í faklium og vísindaligum tilvísingum. Ein stuttur ikki-serfrøðiligur samandráttur, ein hálva A4 síðu í støddskal skrivast á føroyskum og á enskum. Ritgerðin verður skrivað á máli, ið semja verður gjørd um millum ábyrgdarlærara og student, vanliga á føroyskum, einum øðrum norðurlendskum máli ella enskum.		**Subject**	The project includes an outlining of the definition of the assignment in question, measurements with relevant instrumentation where applicable, collection of relevant material, analysis of problem, and possibly design and investigation of systems or programs. A comprehensive report is to be written, including, where relevant, text, figures, tables, abstract, and list of contents, index, and list of symbols. The report shall include a critical and comprehensive discussion and conclusion of the results, and comparison with previously obtained results, e.g. described in the professional and scientific literature. A short non-specialist, popular summary one half A4 page in size is to be written in Faroese and in English. The report will be written in a language agreed upon by the supervisor and the student, normally expected to be Faroese, another Nordic language or English.	
Undirvísing	Leiðbeining og kjak av verkætlanini. Alt arbeiðið skal verða avrikað innan fyri tíðarkarm uppá 16 vikur, og ein evsta freist fyri innlating av ritgerð verður sett.		**Teaching**	Supervision and discussion of project. Work should be completed within 16 weeks, and a deadline should be set for submission.	
Døming	Meting av ritgerð. Prótvøkuúrslit sambært galdandi prótvalsstiga.		**Evaluation**	Evaluation of report. The existing grade scale will be used.	
Lestrarlisti	Allar viðkomandi greinar, bøkur, savn av dátum og instrumentering.		**Material**	Any relevant papers, textbooks, collection of data, and instrumentation.	
Samskifti	Magnus Danielsen, email: magnusd@setur.fo		**Contact**	Magnus Danielsen, email: magnusd@setur.fo	

⮜ Forsíða / Front page
⮜ Vallærugreinar / Optional courses