

THE ISKRA DELTA TRAINING CENTRE

Iskra Delta Computers (IDC) is a computer manufacturing organization. Its main activities are: production of hardware, production of system and application software, sales, as well as HW and SW maintenance support.

The Iskra Delta Training Centre provides additional (additional to formal school education) education for our customers, especially the buyers of our products.

Being a training centre in a computer company our main concern is the training of the customers in the area of system and application software. We also perform courses on other subject areas such as economics, customer contact, law, etc. mainly for salesmen, managers and other IDC's workers.

THE PRESENT DELTA TRAINING PROGRAM

The courses are scheduled according to their topics. System and application software has the following course units: Informatics, Languages, Software Tools, User Applications, Education and Computer Sciences, Users and Informatics. Systems are divided into Operating Systems, Communications, Hardware. Functional knowledge consists of units: Economy and Law, Business Polices and Organization, Social Science, Working Environment, Natural Languages.

The training centre Delta is doing the best to improve and extend its services. All the novelties are being accurately incorporated in the courses. The courses and documentation are being updated and improved all the time. The training program was published in the Catalogue 1988 which is currently updated by new courses.

Besides regular courses, other interesting seminars are also organized in order to transfer as soon as possible the new information technology trends to all who are interested in.

The below list of seminars from the Catalogue 1988 has been chosen to illustrate the types and the contents of our seminars:

INFORMATICS

ASA01 Introduction to Computing
ASA02 Introduction to Structured programming
ASA06 Management of Data Processing Projects
ASA07 Structured system Analysis
ASA08 Data Base Design
ASA10 Data Dictionary
ASA12 Structured Program Design
ASA15 Program Data Structures
ASA16 Fundamentals of Computer Security
ASA17 Technology of Computer Security

LANGUAGES

ADA01 Fortran Fundamentals
ADA02 Fortran Programming Techniques
ADA03 Cobol Fundamentals
ADA04 Cobol Programming Techniques
ADA05 Pascal Fundamentals
ADA07 C Fundamentals

SOFTWARE TOOLS

APA03 Vitrage Software Tools
APA04 Administration of VBASE
APV01 AGP Application Generator
APV05 FORMATIX Program Generator

USERS AND INFORMATICS

ANA01 Informatics Fundamentals for Information System
User
ANA04 Introduction to Working on Computer
ANA08 Informatics for Managers
ANA11 Factory of the Future
ANA12 Decision Support Systems

SYSTEM SOFTWARE

MS-DOS

ABD01 Introduction to MS-DOS
ABD02 MS-DOS and Utilities

Delta/M

ABM01 Introduction to Delta/M Operating System
ABM02 Delta/M Architecture and Macro

UNIX

ABU01 Introduction to UNIX

Delta/V

ABV01 Introduction to Delta/V (VAX/VMS) Operating System

ABV03 System Operator's Course on Delta/V (VAX/VMS)

ABV04 Architecture of Processors Delta 4000

ABV05 Macro on Delta/V

ABV06 Use of Delta/V Features in Macro

ABV08 Delta/V (VMS) System Management

COMUNICATIONS

AKA01 Introduction to Data Communications

AKA02 Delta Networks

ASA01 INTRODUCTION TO COMPUTING

Duration: 5 days

Course objectives: Getting acquainted with elementary terms of computing and automatic data processing.

Course topics:

- Basic computer terms
- Hardware
- Software
- An overview of automatic data processing possibilities
- Brief history of computing
- Presentation of data in computer
- Programming fundamentals
- From an idea to implementation of a computer application
- The role of a user in computer projects
- Presentation of IDC products

ASA02 INTRODUCTION TO STRUCTURED PROGRAMMING

Duration: 5 days

Course objectives: Getting acquainted with elementary techniques of structured programming and preparing to solve problems by pseudocode.

Course topics:

- Use of computer for solving problems; programming, algorithm, programming language
- An overview of system development from an idea to working system
- Elementary terms of program (declaration, statement, quality of program)
- The process of solving a problem
- Structured programming
- Stepwise refinement of a program
- Some characteristic algorithms
- Data structures (organization and data access)
- Relations between data structures and algorithm
- Decision tables
- Programming languages and structured programming

ASA06 MANAGEMENT OF DATA PROCESSING PROJECTS

Duration: 5 days

Course objectives: Participants shall be acquainted with the methodology applied in project management. The course gives a solid basic for management of most complex projects.

Course topics:

- Information System Management
- Project Development Structured Methods
- Starting the Project
- Planning, Estimating and Scheduling
- Project Surveyance
- Project Evaluation and Maintenance
- Human aspect of the project team

ASA07 STRUCTURED SYSTEM ANALYSIS

Duration: 5 days

Course objectives: Knowing the tools and methodologies of structured system analysis. The attendees will be able to make an efficient, exact and readable documentation of the system requirements.

Course topics:

- Purpose and functions of system analysis
- Modeling
- Tools for modeling
- The environment model
- The user model
- Data flow diagrams
- Data dictionary
- Process description
- Multilevel structure of model
- Subsequent project development steps

ASA08 DATA BASE DESIGN

Duration: 5 days

Course objectives: To make participants acquainted with the significance of data base usage for applications development and to enable them for usage of data bases.

Course topics:

- Data Base Concept
- Mathematical Theory of Sets
- Data Base Relation Model
- Data Base Design Procedure

ASA10 DATA DICTIONARY

Duration: 3 days

Course objectives: To make attendees acquainted with modern methods of preparing standards and documentation, and to teach them to use data dictionary, which is the main tool of data base administrator.

Course topics:

- Data Administrator
- Composition of Standarts and Documentation
- Data Dictionary
- Description of some Data Dictionaries

ASA12 STRUCTURED PROGRAM DESIGN

Duration: 5 days

Course objectives: To make participants aware of the advantages of structured program design and to teach them how to use pseudo-code as a method of presenting program logic.

Course topics:

- Introduction
- Construction of Structured Design on the basic of logical Model
- General Use of Structured Design
- Pseudo-code

ASA15 PROGRAM DATA STRUCTURES

Duration: 5 days

Course objectives: To teach participants how to use some common, often applied data structures and algorithms, which enable efficient programming. The methods treated are general, in the sense that they can be applied within whichever programming language and are not related to any type of computer system.

Course topics:

- Operations on Data Structures
- Simple Structures
- Hash Tables
- Tree Structures
- Balanced Tree Structures
- Data Structures for Optimizaton and for Information Systems

ASA16 FUNDAMENTALS OF COMPUTER SECURITY

Duration: 1 day

Course objectives: Presentation of dangers for data and fundamental principles of law, code of ethics and technical measures of data security.

Course topics:

- Computer security concept
- Additional requirements for software security
- Security policies and procedures

ASA17 TECHNOLOGY OF COMPUTER SECURITY

Duration: 4 days

Course objectives: Presentation of fundamental techniques for data security.

Course topics:

- Computer centre security
- Schema of the contingency planning
- Cryptology fundamentals: protection of disclosure and protection of authenticity

ADA01 FORTRAN FUNDAMENTALS

Duration: 5 days

Course objectives: To make participants acquainted with the FORTRAN programming language to such an extent, that they will be able to write simple FORTRAN programs.

Course topics:

- Compiler Description
- Syntax and Format Statements
- Types of Data
- Arithmetical and Logical Expressions
- Input/Output Procedures
- Subroutines and Functions

ADA02 FORTRAN PROGRAMMING TECHNIQUE

Duration: 5 days

Course objectives: This course has been designed to meet the needs of the application programmer who will be required to write and develop user programs.

Course topics:

- FORTRAN Overview
- Structured Design of Program, Using the System Libraries
- FORTRAN Programs Documentation
- File Handling
- Character Handling (66 and 77 standard)
- Terminal Handling
- Optimization
- Compatibility and Efficiency of FORTRAN Program

ADA03 COBOL FUNDAMENTALS

Duration: 5 days

Course objectives: To make participants acquainted with the COBOL programming language to such an extent, that they will be able to write simple COBOL programs.

Course topics:

- Description of COBOL compiler
- An overview of COBOL instruction set
- COBOL divisions
- Data types
- Data string organization and data access methods
- Use of COBOL subprograms

ADA04 COBOL PROGRAMMING TECHNIQUE

Duration: 5 days

Course objectives: This course has been designed to meet the needs of the application programmer who will be required to write and develop user programs.

Course topics:

- Program libraries
- Terminal functions
- Optimization
- Compatibility
- Screen manipulation
- Cobol documentation

ADA05 PASCAL FUNDAMENTALS

Duration: 5 days

Course objectives: To make participants acquainted with the Pascal programming language to such an extent, that they will be able to write simple Pascal programs.

Course topics:

- Language fundamentals
- Basic data types
- Assignment statements
- Control statements
- Composite data types
- Functions and procedures
- Input/output procedures

ADA07 C FUNDAMENTALS

Duration: 5 days

Course objectives: To make participants acquainted with the C programming language to such an extent, that they will be able to write simple C programs.

Course topics:

- Data types
- Operators
- Control commands
- Data structures
- File manipulations
- Cursors

APA03 VITRAGE SOFTWARE TOOLS

Duration: 10 days

Course objectives: Knowing all features of Vitrage Tools and being able to use them.

Course topics:

- Introduction to Vitrage Software
- Overview of Vitrage Software Tools
- VBASE data base management system
- VLEX data dictionary/ directory system
- VFORM screen manager
- VGEN cobol generator
- DBPRINT printout creation
- An overview of application development

APA04 ADMINISTRATION OF VBASE

Duration: 5 days

Course objectives: Knowing the structure of a network model and its physical implementation in VBASE. Knowing the methods for database maintenance when changing the structure and/or quantity of data in database and measures for data security.

Course topics:

- Logical structure of database (record types, set types)
- Physical structure of database (file organization)
- The role of database administrator
- Implementation, loading and maintenance of database
- Security and recovery procedures

APV01 AGP APPLICATION GENERATOR

Duration: 5 days

Course objectives: Achieving knowledge to use all possibilities of the product for application development.

Course topics:

- General on 4GL
- Fundamental concepts of AGP
- Differences with the language of the 3rd generation
- Comparison with other program generators
- Database design
- Concepts of AGP data dictionary
- Program development with AGP
- Development of interactive programs
- Development of batch programs for reports
- Use of menu generator
- Use of text editor
- Development of a complete application

APV05 FORMATIX PROGRAM GENERATOR

Duration: 5 days

Course objectives: Getting acquainted with the FORMATIX Software package and being able to use it without any other assistance.

Course topics:

- Description of FORMATIX and its functions
- Generation of parameters for FORMATIX
- Data entry, modification of data and data verification
- Generation of data manipulation programs
- Generation of areas and menus
- Other possibilities of FORMATIX
- Generation of an application

ANA01 INFORMATICS FUNDAMENTALS FOR IS USERS

Duration: 3 days

Course objectives: To make participants understand the importance of the computer aided information system for management, research and development and to make them aware of their role in this connection.

Course topics:

- Management Process Characteristics
- Management Information System
- Computer as a Data Processing System
- Organization and Employment of Personnel
- Role of Top Management in Information System Development and Operation

ANA04 INTRODUCTION TO WORKING ON COMPUTER

Duration: 1 day

Course objectives: Knowing the fundamental possibilities of a computer for its use.

Course topics:

- Computer technology fundamentals
- What is hardware and what is software
- Some facts about video display unit
- Some facts about data security
- Elementary features of an operating system

ANA08 INFORMATICS FOR MANAGERS

Duration: 3 days

Course objectives: Knowing the computer possibilities in its use as information system and the role of a user in development and use of information system.

Course topics:

- Presentation of an information system (IS)
- Computer technology fundamentals
- Role of computer in IS
- Personal computers, automated office, computer centre
- Job profiles in IS
- How to build IS - role of the user
- How to manage the project

ANA11 FACTORY OF THE FUTURE

Duration: 5 days

Course objectives: Getting acquainted with the possibilities of the computers, automatization and robotics in managerial and development process of a modern factory and role of management in it.

Course topics:

- Automatization of production and management
- The role of computer for production planning and control (CAM, CAPP, MRP, MRP2, group technology)
- Possibilities and restrictions of CIM
- Workshop of modern communication systems (electronic mail, teleconference)
- The role of computer in CAD
- IDEAS an example of CAD
- Expert systems
- Automatization of a factory and robot workstations
- Sociological and economical aspects of new technologies

ANA12 DECISION SUPPORT SYSTEMS

Duration: 2 days

Course objectives: Getting experience of practical work with computer and a global view of possibilities and restrictions in the field of decision support systems.

Course topics:

- What is calculation of a decision
- Theories and technology for decision support, types of models
- Spreadsheet
- Design of decision support systems
- Modern principles of man - machine dialog
- Qualitative decision models
- Artificial intelligence and expert systems
- Trends in decision support systems

ABD01 INTRODUCTION TO MS-DOS

Duration: 2 days

Course objectives: To introduce MS-DOS to beginners

Course topics:

- What is MS-DOS
- Basic commands of MS-DOS
- Basic of WS

ABD02 MS-DOS AND UTILITIES

Duration: 5 days

Course objectives: After the course the participants will be able to use details of command interpreter, basic utilities and to make configuration setup of MS-DOS.

Course topics:

- Command interpreter
- Utilities
- Configuration set up
- System backup

ABM01 INTRODUCTION TO DELTA/M OPERATING SYSTEM

Duration: 5 days

Course objectives: Transfer to participants the basic knowledge of the DELTA/M operating system and to prepare them to work with command language and utilities.

Course topics:

- PDP-11 Computers Architecture
- Using the Terminal
- PIP Pheripheral Interchange Program
- Introduction to Editor EDT
- Utility Programs (PRI, QUE)
- Linkers and Compilers
- Indirect Command Files

ABM02 DELTA/M ARCHITECTURE AND MACRO

Duration: 5 days

Course objectives: Students should become familiar with the arch of PDP-11 processor; its operating system structure, processor addressing modes and instruction set. Upon successful completion of the course the student will be able to attend the courses on assembly language programming of PDP-11 computers.

Course topics:

- PDP-11 Computer Architecture
- Methods of addressing
- Instruction set
- Assembler subprograms

ABU01 INTRODUCTION TO UNIX

Duration: 5 days

Course objectives: Participant will be able to describe general components, facilities and capabilities of VAX/VMS operating system, use basic set of DCL commands and use some simple utilities.

Course topics:

- Introduction to UNIX operating system
- Operating system components
- Terminal functions
- SHELL command language
- VI text editor
- Program development in UNIX

**ABV01 INTRODUCTION TO DELTA/V
(VAX/VMS) OPERATING
SYSTEM**

Duration: 5 days

Course objectives: Participant will be able to describe the general components, facilities and capabilities of VAX/VMS operating system, use basic set of DCL commands and use some simple utilities.

Course topics:

- VMS Operating System Functions
- DCL Command Language
- Login/ Logout
- Disc Structure
- File Handling
- File protection
- Editor
- Program Development

**ABV03 SYSTEM OPERATOR'S COURSE
ON DELTA/V (VAX/VMS)**

Duration: 5 days

Course objectives: To make participants acquainted with all kinds of jobs which are required for undisturbed, optimal and safe computer system operation.

Course topics:

- Operator Function
- Operator Privileges
- System Startup and Shutdown
- Data Protection (backup)
- Queue Management
- System Monitoring
- Error Detection and System Testing

ABV04 ARCHITECTURE OF PROCESSORS DELTA 4000

Duration: 5 days

Course objectives: Students should become familiar with the arch of Delta 4000 processor; its operating system structure, processor addressing modes and instruction set. Upon successful completion of the course the student will be able to attend the courses on assembly language programming of Delta 4000 computers.

Course topics:

- Introduction to computer architecture
- Delta 4000 overview
- Data representation
- Addressing modes
- Operating system overview
- Process structure
- Exceptions and interrupts
- Memory management

ABV05 MACRO ON DELTA/V

Duration: 5 days

Course objectives: Enable the participants to write simple programs in assembly language.

Course topics:

- Assembly language overview
- Writing basic programs
- Use of Debugger
- Procedure calling standard
- Program sections
- Using Macros

ABV06 USE OF DELTA/V FEATURES IN MACRO

Duration: 5 days

Course objectives: This course is designed to teach the participants students the mechanic of calling system services, Record Management Services, Run Time Library routines and other tools to perform operations typically required of commercial and scientific applications.

Course topics:

- Calling system-supplied procedures
- Using the linker
- Sharing code and data
- Synchronizing processes using event flags and AST-s
- Creating and accessing files using RMS
- Accessing devices
- Handling exceptions

ABVOB DELTA/V (VMS) SYSTEM MANAGEMENT

Duration: 5 days

Course objectives: Participant will be able to describe the general components, facilities and capabilities of VAX/VMS operating system, use basic set of DCL commands and use some simple utilities.

Course topics:

- User environment
- Managing system users
- Managing disk and tapes volumes
- Starting up and shutting down the system
- Customizing the system
- Installing and updating system SW
- Maintaining integrity, security
- Monitoring performance and performance tuning

AKA01 INTRODUCTION TO DATA COMMUNICATIONS

Duration: 5 days

Course objectives: Participants shall be acquainted with some basic notions from the area of Data Communication Systems and with possibilities and limitations of Communications Systems. The contents of this course is introductory and should be treated as prerequisite to most other communications courses.

Course topics:

- Data Communications Fundamentals
- Terminology and principles of Data Transmission
- Transmission mediums
- Modem control and operation
- Interface standards
- Communication protocols
- Networking Computers
- ISO OSI model
- DNA
- Possibilities of connection to other types of computer systems

AKA02 DELTA NETWORKS

Duration: 5 days

Course objectives: Participants shall be taught how to manage DECnet Computer Networks and write programs to the DECnet programming interfaces.

Course topics:

- Networks in general
- OSI revisited
- DNA
- Network System Management
- Task-to-task communication
- Remote File and Record Access
- Network Terminal Facilities