

Sault College
of Applied Arts and Technology
sault ste. marie

Course Outline

PROGRAM DESIGN TECHNIQUES

EDP 201-5

revised September 1975

Same for September 1978

PROGRAM DESIGN TECHNIQUES
EDP 201-5

STUDENT PERFORMANCE OBJECTIVES

- tests at close of each main section (3)
- major project evaluation and presentation on chosen system

Grades: major project 75
tests 25

85 - 100 -A
74 - 84 -B
60 - 73 -C

below - I

1. Introduction

- analysis to understand the problem
- preparing a preliminary program flowchart
- desk-check preliminary flowchart
- code the problem and keypunch
- check keypunching
- submit program for initial compilation
- correct errors in compilation
- desk check the correct compilation
- prepare JCL for testing
- prepare test data
- test program using valid test data
- test program using all test data
- verify test results with analyst
- prepare final documentation

2. Structured Programming

- introduction to structured programming background
- concepts
- top down methodology
- tree like hierarchy
- basis control patterns
- project file
- structured walk-thru
- chief programmer team
- hipo
- function
- module

Organization:

- Organizational changes
- communication
- support use of techniques

2. cont'd.

Conversion to SP

- objectives
- positive management action
- examination of resources
- initial job
- evaluation and quality

Impact

- problems of traditional programming
- impacts on programmer
- impacts on analyst/designer
- impacts on manager

The S-P environment

- (a) overall impact
 - programmer function
 - role of data
 - schedule
 - communication
- (b) Analyst/Designer function
 - tree like hierarchy
 - project file
- (c) Manager
 - productivity
 - control
 - visibility
- (d) the total impact
 - documentation and the environment

Exercises are presented throughout this section study including a major examination featuring the SP environment.

Students are encouraged to use this new method and approach to programming in all major computer work.

3. Cobol Subroutines and Segmentation

- introduction
- cobol subprograms
- call statements
- entry statements
- exit statements
- goback statements

Linkage Section

- overlays and segmentation
- section designations
- virtual storage
- segmentation and paging
- exercises

4. Program Design Techniques

-students choose a canned system or series of programs compiled in any language they choose. They are required to thoroughly understand the esoteric nature of the system in addition to undertaking an in-depth study of the system itself. Consideration is given to systems specs and requirements, the design of the system, the actual coding techniques and the final implementation of the system including operation and documentation. The student must make the necessary JCL changes to enable his chosen system to operate in our computer-based environment. At the conclusion of his study the student must make a presentation stressing the techniques and design features he has learned.