Prediction of direct and indirect consequences of each alternative considered in the analysis framed in terms of costs and benefits for various affected interests. If consequences are uncertain, estimates of their probability may be presented. There may be specification and defense of the underlying assumptions about cause-effect relationships and of the techniques used for making these predictions.

f. Evaluation of Alternatives
An evaluation of each alternative (including the alternative of doing nothing) in terms of the specified criteria of choice. When alternatives are found to be superior with respect to certain criteria but inferior with respect to others, it may be necessary to rank or weight the criteria, or develop additional criteria for evaluating the trade-offs, the different combinations of goal achievement.
It may be important to evaluate each alternative in terms of the political feasibility of its enactment and implementation.*

g. Choice
A reasoned recommendation as to which specific course of action should be pursued on the basis of the specified criteria.

*Assessment of political feasibility might include analysis of the major facilitating and constraining factors falling into the following categories:

**Institutional factors:** analysis here would include identification of the institutions most important for the generation, adoption, and implementation of policy in the area under study, and a description of their characteristic responses to reform proposals and of any structural features which may help to explain policy outcomes in this area.

**Interest group factors:** there may be a description of the active interest groups. This may include an examination of: their formal positions, other values at stake which help to account for motivations, organizational attributes, alignments and coalitions among groups, lobbying tactics, and the availability and use of political resources.

**Potential factors:** there may be a study of the inactive affected interests, reasons for their inactivity, and their likely orientations if aroused.

5. PROGRAM DESIGN
a. Program or setting
b. Needs assessment
c. Objectives
d. Target population
e. Design specifications, including frequency, duration, and form of activities or services, personnel, equipment, location and structure of delivery sites, time-frame for implementation, coordination with other programs, lessons learned from similar programs elsewhere, design materials (charts, procedural manuals, lesson plans, catalogues, job descriptions, forms, detailed budgets, etc.)
f. Sources of required resources
g. Program benefits/costs
h. Financial feasibility
i. Political feasibility
j. Monitoring and evaluation plan


A program design is a detailed plan for a human services delivery program, accompanied by arguments supporting implementation of the program by a particular organization. The proposal may be for a significant extension or modification of an existing program, the adoption of a program as it has been in operation elsewhere, or an original creation that calls for a new approach or a new combination of familiar elements. The design should be specific to an actual site; real data should be used, and the advocacy should be directed to an identified audience. At the same time, the design should be a vehicle for demonstrating administrative knowledge and skills applicable in various settings.

The design may be a preliminary one, but the information should be sufficient to form a framework for a more developed plan, and to serve as a means for eliciting feedback and constructive criticism from work colleagues, superiors, and other interested parties. The program description and defense should be comprehensive enough to convince the organization’s leadership, or an external funding or regulatory agency, that the proposed program is appropriate and feasible.

A program design done in the field will typically entail more effort than is normal for the purposes of a master’s thesis. The following list offers an extensive checklist from which some subsets of elements might suffice to meet the expectations of a thesis. Many public and private agencies have quite specific format requirements for program proposals and designs, but among the elements may be the following:

a. Program and Setting
   A description of the characteristics of the implementing organization and the proposed service delivery program. This introductory section should also present an overview of relevant market characteristics or other environmental factors. Existing features of the delivery system and future trends may be briefly discussed.

b. Need Assessment
   A systematic appraisal of the problem or new opportunity to be addressed. Consideration can be given to known discrepancies between available and required services or facilities, forecasted supply and demand, potential and actual utilization of services. The results of censuses, sample surveys, or utilization trend studies may be reported, or there may be a defense of other indicators and techniques used for identifying the problem and community support for the proposed program. There may be a discussion of variations in perspectives on needs and priorities as held by professionals, potential service recipients, and other constituencies, and an examination of the reasons for these discrepancies.
c. Objectives
   Articulation of the intended general and specific accomplishments of the program. There may be short-term and long-term predictions. This section may set forth the guiding hypotheses about modification of individual or community conditions — hypotheses which underlie the assumed cause-effect relationships between the program and the objectives.

d. Target Population
   Identification of the individuals or other units to which the program is to be directed, and specification of the criteria for selecting the service recipients. (This should follow closely the evidence presented in the need assessment.) The target population may be analyzed in terms of size, geographical location, social and demographic characteristics, distribution of problems and conditions, and sociocultural and transportation factors likely to affect utilization of services and program effectiveness.

e. Design Specifications
   Detailed description of the structure and operation of the proposed program, including: frequency, duration, and form of activities or services; personnel, equipment, and other resource requirements; staff functions and organization; location and structure of new service delivery sites; time-frame for implementation; and plans for coordination with other programs both within and outside the organization. It may be advisable to demonstrate how the elements in this section conform to two major sources of design specifications:

1. The standards set forth in the State Health Plan, the Health Systems Plan and Annual Implementation Plan of Health Systems Agency; the institution’s own plan, if there is one; the requirements or regulatory agencies and accreditation bodies; and the guidelines promulgated by professional associations.

2. The lessons to be learned from model programs in operation or completed elsewhere.
   Design materials which may be attached as appendices could include organization charts, operations flow charts, policy and procedure manuals, job descriptions, record forms, price lists and catalog descriptions of required equipment, detailed budgets, and architectural plans.

f. Sources of Required Resources
   Analysis of the availability of labor and materials needed for construction, and of the equipment and personnel needed for operation. This may include assessments of the relevant labor markets, and plans for the recruitment of scarce professionals.

g. Program Costs and Benefits
   An estimate of expected direct installation and operating costs. There may also be an estimate of indirect costs, or additional burdens placed on general administration, housekeeping and maintenance, and other services and departments. This section addresses the question: “Is this program an efficient use of resources compared with alternative uses of resources?” Ideally this would be answered using a prospective cost-benefit analysis. The proposal might also contain discussion of two or more alternative approaches to achieving the specified goals, with each alternative carrying a different
total cost. A comparative cost-effectiveness analysis of these options could then be carried out.

h. Financial Feasibility
An assessment of the need for, and potential sources of, capital financing including invested equity, mortgages, loans, conventional bonds, tax-exempt bonds, stock offerings, government grants, and fund drives. Beyond the payment of program start-up costs, the institution must also have reasonable assurances that ongoing operating costs (including interest on loans) will be covered by program revenues or funds earmarked from other operations. Various types of financial analyses (cost-of-capital calculations, ratio analysis) can be brought to bear in this part of a program design.

i. Political Feasibility
An appraisal of the probable sources and level of support for and opposition to the proposed program as a whole or to various components of it, at the launching and the operational stages. This could include an examination of the likely arguments and tactics of opponents, and the counterarguments and countertactics likely to be most effective. Insights for such an analysis could be drawn from the history of past program promotions, both successful and failed initiatives, at the proposed implementing organization or elsewhere.

j. Monitoring and Evaluation Plan
A description of how data will be gathered to determine to what extent: (a) the program is reaching the appropriate target population; (b) the delivery of services or other program activities are being undertaken in conformity with the design specifications; and (c) the program is meeting the objectives and having the desired impacts. This plan may include: criteria for assessing success, operational indicators of goal achievement, identification of information needs, and an outline of a data collection system.

6. OPERATIONS RESEARCH
a. Problem definition
b. Model construction
c. Model validation
d. Data collection
e. Model testing and analysis
f. Evaluation of alternatives and recommendations
Typical title: “Algorithmic Scheduling Techniques for the Ballistics-Testing Center”

Operations research (OR) is a method of problem solving involving the use of mathematical and/or computer-based models to evaluate or predict the consequences of alternative courses of action on an operating system. OR techniques can be applied to certain well-structured decision situations in the planning and administration of health services, including cost minimization and output maximization problems, simulation exercises, scheduling and inventory control questions, and much more. Among the elements of an operations research project might be the following: