A SYSTEMS APPROACH TO EXPANDING A PROGRAM IN HIGHER EDUCATION

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ABSTRACT

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The theoretical intent of this research was to investigate the value of model building or modeling and the value of analysis of model outputs to instructional programs within structures of higher education. The operative aspect of using the aforementioned systems analysis techniques when applied to the instructional segment of a graduate level program was to determine the feasibility of expanding the instructional system through an increase in annual student admission rates.

The computer based model that was developed consisted of two interactive sub-models. The automated model designed represents the system's faculty (instructional) resource requirements in contact hours for three admission rates over a period of eight, three historical and five projected, years. A manual model was subsequently employed to represent both the financial resources and the faculty alternatives required to support the instructional resource "needs" identified in the automated model.

The analysis of model results clearly demonstrates that:

1) the instructional system could physically accommodate an "expanded" annual admissions rate,

2) the instructional system could support the additional faculty costs incurred by an expanded admissions rate, and

3) by NOT expanding the admissions rate, the instructional system's potential loss in tuition and grant monies alone lies in the order of $250,000 per annum.*

Therefore, the research conducted herein clearly demonstrates the value of applied modeling to instructional systems within structures of higher education, and as such, demonstrates the value of modeling in testing various faculty and admission rate hypotheses.

*averaged on a five year time span.

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ACKNOWLEDGEMENTS

I am indebted to the faculty and staff of the Educational Technology Program at Concordia University for their interest, enlightening comments and active participation in this formal research.

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In addition, Patrick Rose, a fellow student and department research assistant, gave of his technical talents in order to operationalize the computer program required for this paper. Anne Brown, department secretary, whose knowledge of "where to find" made data collection far from an arduous task . . . I thank you both for your genuine interest in this project.

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TERMINOLOGY

An activity - describes the various types of instruction contained within a program element of course, and is expressed in terms of contact hours required of a faculty member.

Note: an activity value can be either student dependent (ie. exam) or independent of student numbers (ie. lecture).

A program element - or course, is comprised of 2,3 or 4 activity elements. The sum of which, in faculty contact hours represents the individual weight assigned to that course, given the nature of it's specific content.

- can have an academic value of 3, 15 or 36 credits.

A discipline - refers to the eleven subject categories under which the courses have been grouped given the nature of their respective content.

Student program - describes the mix of compulsory and elective courses chosen by a student in order to accumulate the 90 credit requirement for the degree offered.

I. INTRODUCTION

Systems Analysis is defined herein as an "approach to problems of decision making which proceed by ascertaining objectives, determining constraints, elaborating alternatives and estimating the costs, benefits and risks of feasible alternatives". (Judy, 1967 p. 2) The systems methodology gets us to the heart of a problem to identify major decision points in order to resolve the problem. The analytic techniques available in Systems Analysis provide us with the instrumentation to qualitatively and/or quantitatively assess the viability of alternative solutions to a decision problem.

One of the functions of an Educational Technologist is to manage resources contained within educational systems. The planning aspect of resource management and the means by which to provide adequate instructional resources within a particular type of educational system is the specific concern to which this research paper addresses itself.

In all educational systems the ability to adequately plan and utilize instructional resources requires a thorough and comprehensive grasp of both the system's component parts (inputs, processes and outputs), in order to ascertain the type, amount and location of the resource(s) needed and the resource(s) availability within the requisite time frame. In addition to the above it is submitted that perhaps the most important element is that these 'identified' resources are appropriately applied in an attempt to effect the aim(s) of the resource utilization decision.

Modeling techniques, or the building of models to represent a system's structure and functions, is fundamentally the construction of information systems. Planning is largely the use of present information in a simulative fashion in order to represent future events or situations for some intended purpose.

Therefore, it is the contention of this thesis that solutions to problems that arise in planning resource utilization of an instructional nature, are available through the appropriate employment of tools and techniques within the framwork of Systems Analysis.

A. Problem Statement

The problem statement can therefore be formulated as follows:

> "Can the model-building techniques from Systems Analysis be successfully applied in the planning and management of the instructional resource requirements of a faculty nature within institutions of higher education?"

B. Purpose of the Research

The thesis embodies issues and concerns of both a theoretical and an operative nature. The actual significance of both is substantiated in the findings and recommendations of this thesis presentation. The theoretical aspect hinges heavily on the assumption that some applications from the field of Systems Analysis can

be appropriately and successfully used for the planning and utilization of academic resources generally; and specifically, for planning resource utilization of an instructional (faculty) nature within institutions of higher education. The operative component examines an existing instructional system at the program level of the University's educational structure and determines the amount and type fo faculty required to provide adequate instructional resources for both the system's current, and potentially expanded, states.

The Educational Technology program at Concordia University in Montreal is the specific system studied. This graduate level program may be attended on a full-time or part-time basis, over a period of a minimum residence of two years or a maximum residence of five years. The program offers the student two fields of concentration from which he/she must successfully complete five compulsory courses, two major projects (a thesis and an internship), and eight elective courses of his/her choosing, in order to meet the degree's academic requirements. In the recent past, the progam has graduated approximately twenty students per academic year. Admissions, set at thirty students per year, are based on the number of thesis projects that could be adequately supervised by the current faculty members. At the curriculum level, the program offers the student a

relatively large and varied "menu" of courses from which to choose his/her individually selected course of study. In excess of thirty courses are available and are arranged within twelve subject or discipline groups. There is not, therefore, a specific or set curriculum that all students must follow. This particular graduate program is very much geared to the student's individual interests and background, as well as the goal of facilitating the active practitioner's growth in the field of Educational Technology. Given the sizable (in excess of one hundred) number of student applications per year and in consideration of the job positions in this field that remain unfilled (Mitchell, 1977), it has been proposed that the present enrollment be expanded to include some twenty to twenty-five additional students per year. One of the obvious considerations in this proposed expansion is planning for the instructional resources required to meet the newly generated instructional load; as well as, the availability of financial means by which to support those teaching resources. Of perhaps a less obvious nature are the following considerations:

a) the actual faculty teaching load, in "contact hours", generated by both the present and the potentially expanded student enrollment.

b) the system's (program's) present ability to meet that teaching load for both the current and the

expanded enrollment.

c) the research interests and academic background of the present faculty, and the time available to pursue such related activities as thesis supervision, independently funded research, and writing for learned publications.

d) the financial implications of the aforementioned items to the Educational Technology program under the specific headings of:

i) the annual salary cost of the present and "required" faculty members, and

ii) the annual income generated by the system's input resources.

This researcher will consider these items in the examination and assessment of this program's instructional system and it's instructional resource requirements.

C. Objectives

The objectives of this research are as follows:

a) To demonstrate that some aspects of Systems Analysis, specifically model building and analytic techniques, can be applied to an instructional system in order to facilitate planning situations specific to the utilization of instructional resources.

b) To construct and employ a model that will represent the faculty required to meet an instructional load for the system's current and potentially expanded

states.

c) To provide information on the staffing and financial implications of providing adequate instructional resources for the system's current and expanded states.

d) To describe:

i) some of the problems encountered when analyzing educational systems, wherein the allocation of required instructional resources is limited by budget allocations or policy constraints.

ii) the significance of the above to both the functioning of the system studied and the student as a product (output) of that system.

e) To demonstrate how an Educational Technologist can contribute to resolving planning problems related to resource allocation within educational systems.

II. RELATED RESEARCH

Given both the theoretical and the operative research concerns and the outlined objectives, the "literature" was approached on the basis of:

a) identifying a suitable model type,

b) establishing an analytical approach that would be relevant to the parameters of the system under investigation, and

c) clearly identifying both the relevant planning factors involved and their interrelationships and establishing a valid means by which to measure these planning factors.

A. Model Classifications

A model is herein defined as "a mathematical formula or some other abstract representation which behaves in a similar way to the system being studied" (Duckworth, 1965, pp. 19).

Models can be classified by their degree of abstraction, their dimensionality, the problem type or subject area to which they are applied, and by the degree of model development. A brief, but descriptive outline (Miller & Starr, 1960) of models by their degree of model development would be that models are employed:

i) to convey information

ii) for measurement and observation

iii) as transformation models

iv) as test models (to confirm or reject the theory on which the model was built)

v) to discover which variables are most relevant to a system's function (ie. sensitivity analysis)

vi) to investigate relationships or, in the instance that the relationships and outcomes are known over a short range, to determine the outcomes outside or beyond that range.

A model that produces an outcome that varies with time, or that produces an outcome dependent on inputs received, falls into a general class of models which function as simulation models. Simulation models, or models used for simulative purposes can exist in various physical forms, at various levels of complexity and are employable for various objective functions. One value of simulation models in planning and allocation of resources lies in their ability to compress time, thereby facilitating the assessment of a system's future resource requirements well in advance of the time when those resources are a necessity.

Therefore, given the specific objectives outlined, (p. - 5 & 6) and the model classifications described above the research model to be developed for this study must functionally establish the system's "processes" over a known range of time and, by extension, establish its outcomes outside of or beyond that known range of time.

B. Resource Allocation Studies

Judy (1967) describes both the analytical approach used to develop the J.C.L.3.W. Model and the model's basic structure and functions. Initially designed as an input/output analysis model, J.C.L.3.W. was used by the University of Toronto Health Sciences Program to assist in the assessment of the resource implications of expanding and improving their instructional programs. This computerized model accepts descriptions of the system's processes (activities) and output levels and from there computes the quantities of inputs, in terms of a "resource hour" measurement, required to produce the outputs.

Of interest to this researcher were both the planning problems encountered in the specific area of curriculum changes and the analytical approach employed for purposes of assessment of resources required when the Faculty of Medicine considered expanding its annual enrollment from 175 to 250 students. Through a comparative analysis of "resource hour" and space requirements for three curriculae and the two enrollment alternatives under study, the appointed 'Board' opted, on the basis of financial feasibility, to retain the original curriculum (both for its content and sequence) and expand the enrollment to 250 students.

Thompson (1970) views a total university system through an industrial dynamics framework. Unlike Judy,

a great deal of detail on the technical development of the model was not included. However, the behavioral approach used to develop the resultant computer simulation model, as well as both the aggregates of planning factors and their interrelationships and functioning interfaces were of note to this researcher. The model was developed to gain an understanding of the dynamic behavior exhibited by universities. Thompson maintained that through simulative forecasting of the system's responses one could facilitate the assessment of variations in educational policies within the system. The operative model represents, in aggregate terms, interacting flows of students and faculty, information, money and capital assets. The model begins with a student instructional demand by degree level, and from there in a sequential fashion "hires" the required faculty, generates expenditures and accumulates capital assets. Although the scope of Thompson's model is significantly large it was interesting to note that having previously and separately defined the university's goals as funcitons of an instructional, research and service nature, that when orchestrating the student-faculty interface, it was assumed that related research and service functions were not separate but in fact assumed to be 'carried" by the instructional faculty.

Pasquir and Sache (1975) describe a model developed to estimate unit (per student) costs and their component factors for instructional inputs, precesses and outputs

at the Fribourg University-Netherlands. The study represented one third of the university's populace for the academic year 1975. The study's intent was to monitor and improve management's resource utilization decisions. The model/information system that was developed was based on a management cost unit called un unite elementaire d'activitie (U.E.A.). The concept of the U.E.A. assumed that all the system's activities were interdependent at the teacher or instructional level. Therefore all costs, identified under four subheadings of i) student enrollment, ii) faculty time/budget allocation, iii) indirect staff costs, and iv) personnel costs, are assignable to an identifiable cost center(s) or U.E.A. From this point a unit (ie. student) cost is identifiable. Additionally, factor costs can be separately calculated or cumulatively summed to the desired system (department, program, year) level. Given the interim nature of this report, data was not available on amortized costs of capital assets and space considerations. The actual figures reported had been altered, so stated, in the "interests of confidentiality". However, notwithstanding the latter, of greatest interest to this researcher was the means used to identify a cost unit and the flexibility of the U.E.A.'s application at the various cost levels encountered within a university system. Also of note, the general applicability/generalizable nature of the U.E.A. to North American educational institutions.

C. Model Families

Three models or model families selected from Hussain (1973 & 1974) were reviewed in terms of structure (model logics) and methods of identifying and quantifying an instructional system's relevant planning factors. The models, in order of their treatment are:

i) Computer Analysis Model for Planning in University Systems, (C.A.M.P.U.S. VIII) eighth version,

ii) Resource Requirements Prediction Model, (R.R.P.M. 1.3 and 1.6) third and sixth versions,

iii) University Simulation Game, (U.S.G.).

Comparatively speaking, these three models are considerably different in their respective scope, structure, level of detail, operating costs and, their specific objective functions. Both C.A.M.P.U.S. and the R.R.P.M. models require the use of a computer; whereas the U.S.G. model, given it's simplicity and it's intended use as a game, can be either computerized (on-line terminal or batch mode) or hand calculated. C.A.M.P.U.S. and R.R.P.M. as their name suggests were designed for management's use in planning and budgeting resource functions. Exceptions are R.R.P.M. 1.6 which could be used in a gaming mode, and the game version of R.R.P.M. 1.3, and 1.35 model.

The scope of the U.S.G. is one academic unit (program or degree) which, if appropriate, could be run repetitively to quantitatively assume department, sector or institutional capacities which it is noted are computed simultaneously in the other two models mentioned. Structurally, the U.S.G. encompasses only specific elements and generates output reports on staff needs, teaching salary costs/student and a "unique" curriculum quality index report.

In terms of aggregates of system elements, C.A.M.P.U.S. and R.R.P.M. have, in addition to the instructional segment, a preceding student flow module and a subsequent non-teaching salary and costing module. Major structural differences between C.A.M.P.U.S. and R.R.P.M. are identifiable at the level of detail contained in the planning factors and the number and type of planning factors required, given output report specifications. Perhaps the most concise method of conveying model differences amongst the instructional segments of all three 'referenced' models is by means of a pictorial presentation, in the following Figures 1, 1a and 2.

Figure 1 U.S.G. Model's Processing Flow

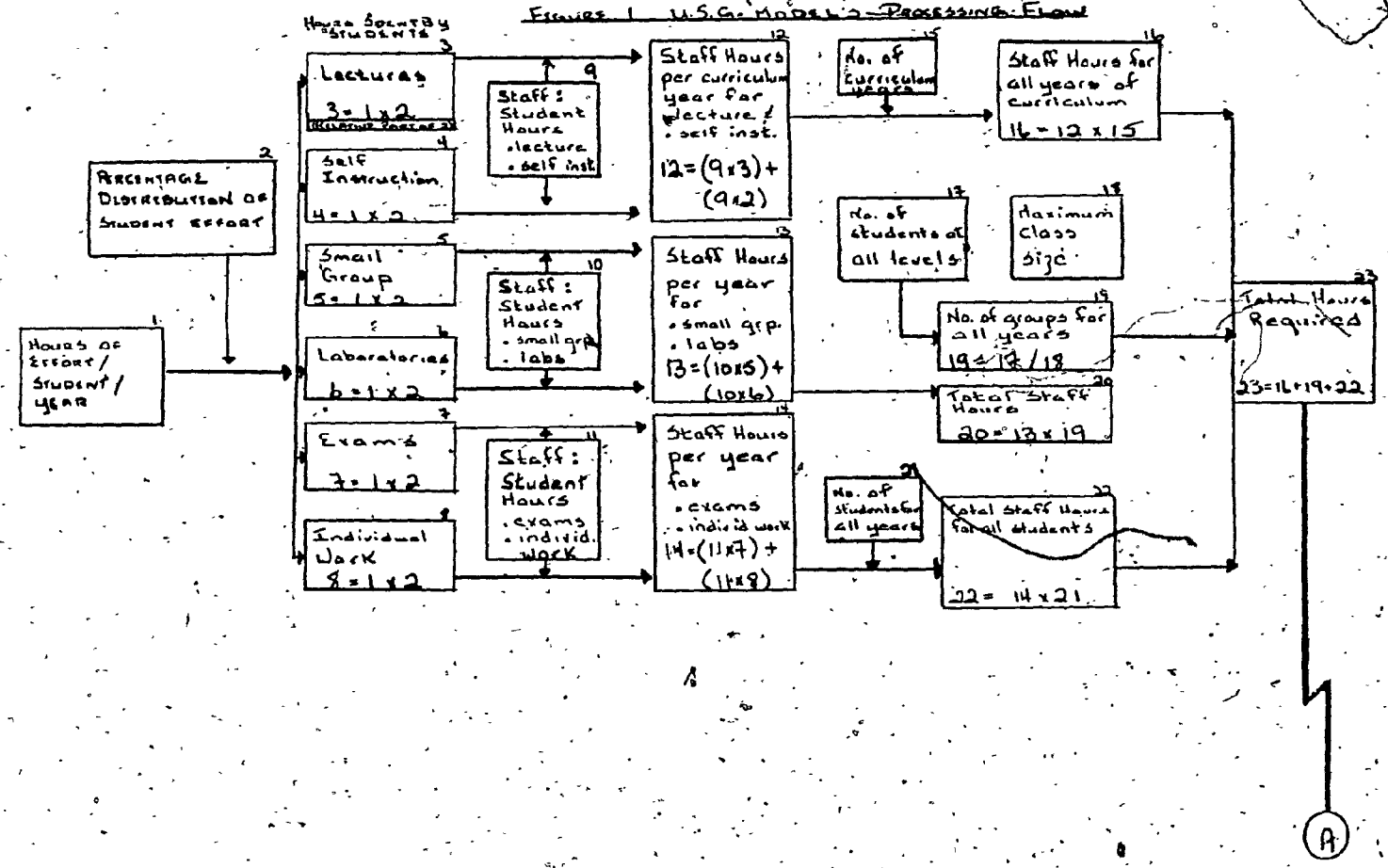


Figure 1A U.S.Co. cont

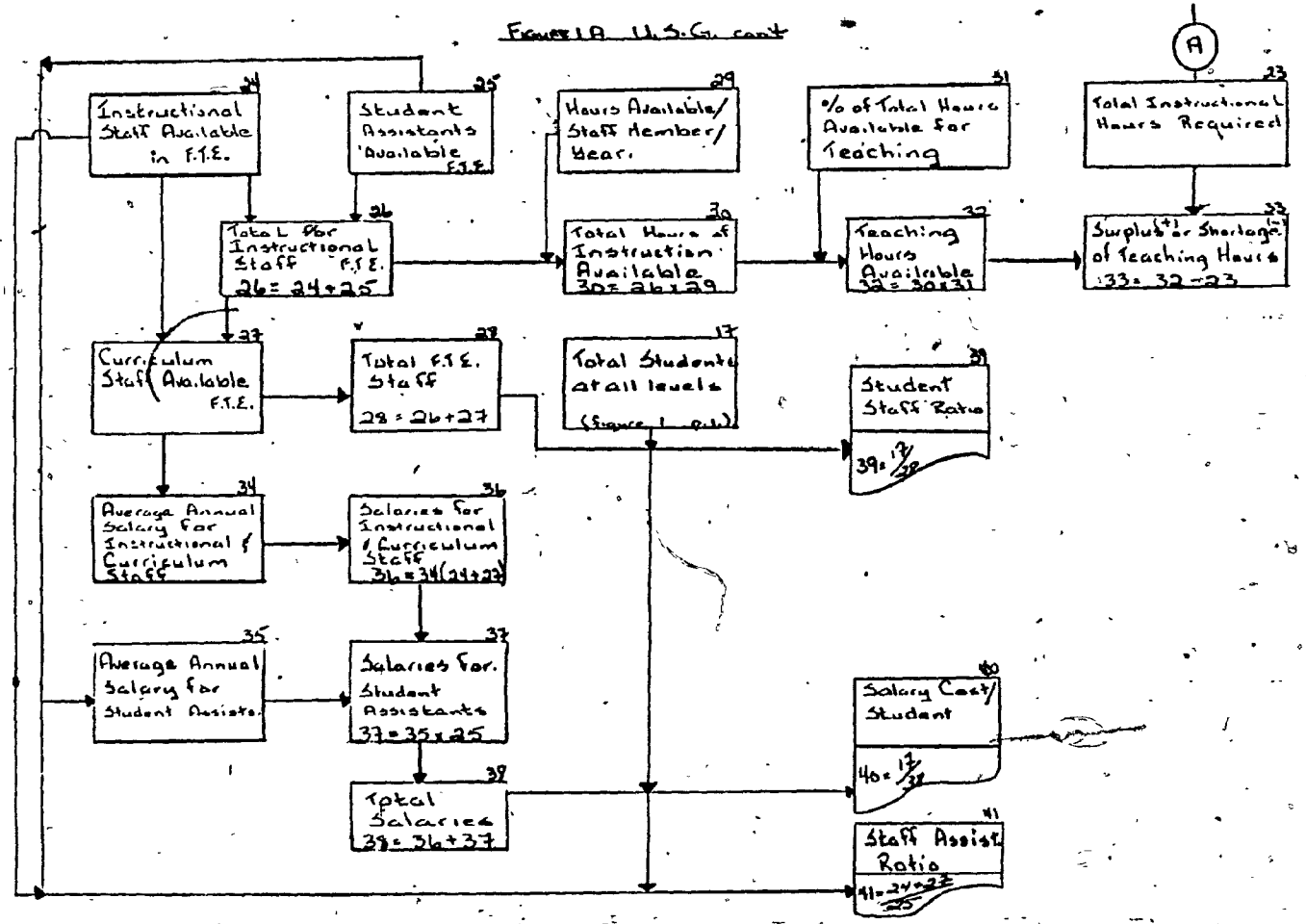
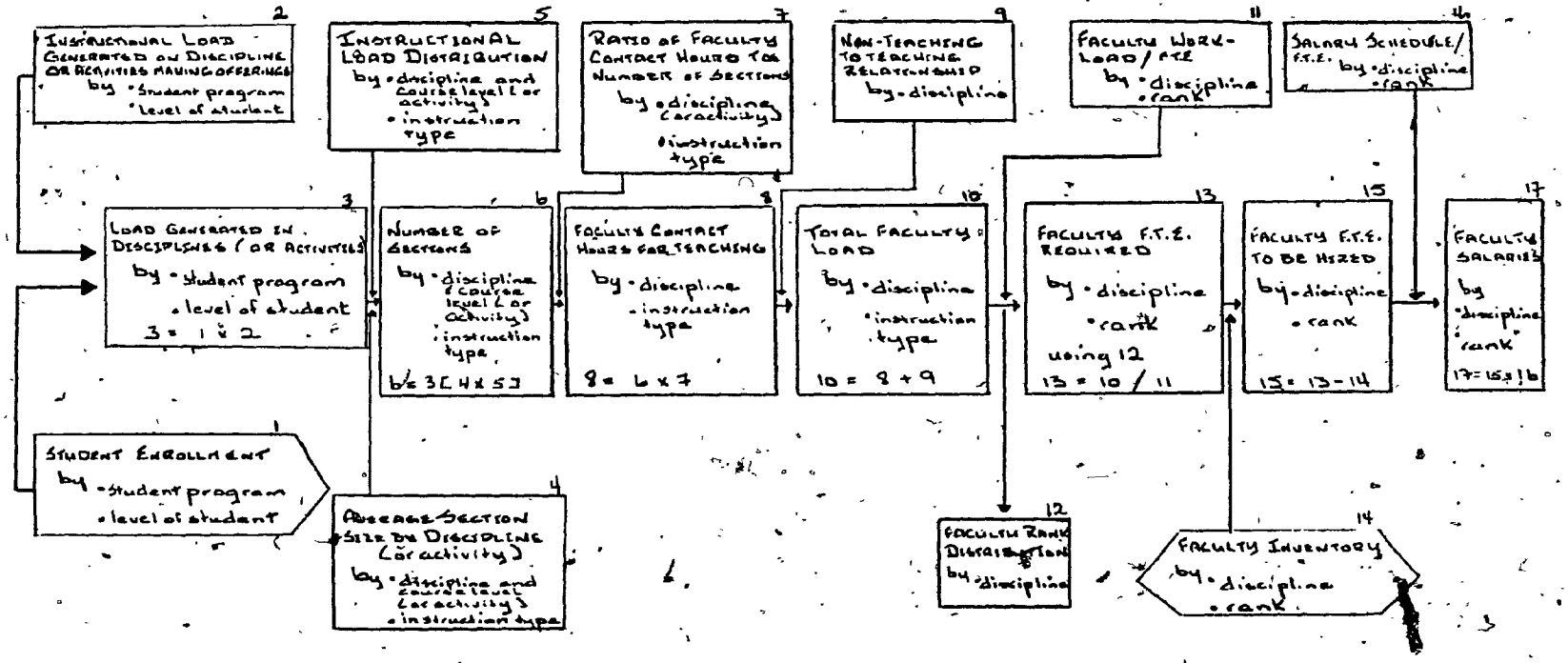


FIGURE 2 BASIC LOGIC FOR CAMPUS AND RRPM



Unlike the Fribourg model, these three models' instructional segments begin by identifying a student generated instructional load, and proceed to calculate, given an available faculty inventory, the amount and type of staff required to meet the instructional surplus or deficit.

a) Determination and Distribution of Instructional Requirements

Unlike the course credit/contact hour loading in the C.A.M.P.U.S. and R.R.P.M. models, the U.S.G. loads in annual student hours of effort by academic unit. Through the application of a student-to-staff-effort ratio on six possible activity levels within courses, the U.S.G. then determines staff surplus or deficit in terms of a (+) or (-) contact hour value.

Initially, given a known student/staff effort ratio, this type of 'loading' may appear somewhat superfluous. However, it is a requirement for the output report specification of the U.S.G.'s curriculum quality index. (not shown in Figure 1).

The content of the induced course load matrix (I.C.L.M.) used in both the C.A.M.P.U.S. and the R.R.P.M. models is much more complex in terms of input data requirements, but for that, it generates both the total instructional load and the distribution of that "load" amongst disciplines offering courses, and within course levels. R.R.P.M.'s use of the I.C.L.M. is somewhat less flexible than in

C.A.M.P.U.S. in that the former proceeds from a credit load generated by one student major (program) to calculate, by enrollments within programs and years (level of student), the total instructional requirement for disciplines offering courses. The C.A.M.P.U.S. base management unit is quantified in activity levels within course offerings and is loaded for a contact hour/course value.

b) Determination of Faculty Required

From the viewpoint of the distribution of the instructional load, in the C.A.M.P.U.S. and the R.R.P.M. models, both the aggregates of required data and the model's logics are very similar. They both convert the distributed instructional load, given a faculty hour (credit)/section ratio, to a total faculty teaching hour/credit requirement. From there, given the non-teaching to teaching ratio/faculty member within disciplines; a total number of teaching faculty is established. This, when applied to a defined full-time contact/credit hour value for faculty, results in the number of full-time equivalent (F.T.E.) faculty required to meet the specified instructional load and the distribution (amongst faculty) of that instructional load.

Through an aggregate percentage of an F.T.E. faculty member's available teaching time; the U.S.G. model's approach to the above function is simply to convert it's previously identified surplus or deficit in contact hours to an F.T.E. faculty value.

D. Summary of the Literature (In Search of a Model)

In order to begin describing the process by which the research model was designed and operationalized, a comment on the input value of the documented models is in order.

i) Model Classifications provided insight to both the physical structure and the objective function the research model would require.

ii) Resource Allocation Studies, summarily describable as input/output model, a computer simulation and a costing model, gave definition to the symptoms evidenced by the program studied and the analytic approach which would be both most realistic and applicable. The J.C.L.3.W. model most closely resembles this research model in terms of classification, it's analytic use, and the enrollment expansion condition. The resource hour (contact hour) measure was applicable to this researcher's quantification problem. However, in the J.C.L.3.W., as in the Fribourg study, the system's curriculum was ordered or set rather than student selected, as in the system under study.

iii) Model Families provided direction in terms of identifying and quantifying relevant planning factors, thereby clarifying the studied system's elements and the technical (applied) aspect of the research model's mechanics and/or logics. Major differences amongst these

three referenced models and the research model are identifyable as the methods and quantitative means used to determine:

i) the instructional load and its distribution across disciplines/faculty, and,

ii) the faculty's availability.

The C.A.M.P.U.S. model's use of loading in contact hours/course activities was both appropriate and relevant input with regard to this researcher's need for a base unit of measure. Whereas, the I.C.L.M. format (also used in credit values in the R.R.P.M. models) was not viable on the basis of:

i) a student selected curriculum,

ii) the full-time (F.T.) and part-time (P.T.) student enrollment, and

iii) the flexible nature of the program's required completion time (ie. two to five years), the 'concept' of the I.C.L.M., given the required output specification of identifying both numbers and types of required staff, was invaluable in establishing both the individual and total faculty contact hour availability within and across faculty's respective instructional disciplines. The resultant faculty distribution matrix (F.D.M.) used in the research model circumvented both the lump sum (+ or -) faculty contact hour global value which was generated in the U.S.G. model, and the assumption

that for hiring and costing purposes all instructional faculty function on an interdisciplinary basis.

III. DESIGN OF THE SYSTEM'S MODEL

A. System's Model Components

The system's research model consists of two subsystems; one a computer model, the other a manual model. An aggregate representation Figure 3 depicts both the model's component parts and the computer/manual subsystem interface.

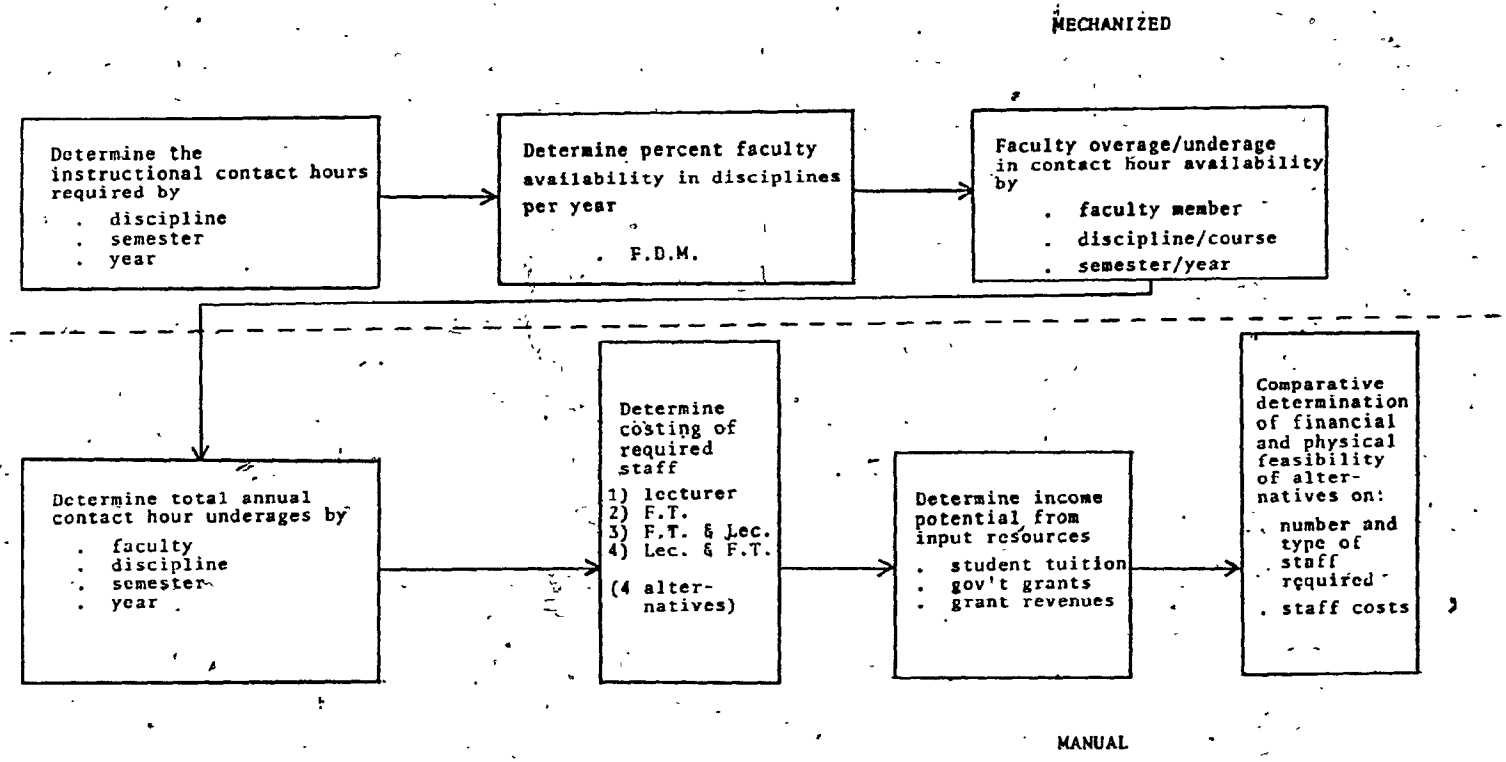
B. System's Restraints:

Given the program's output specifications, and the proposed system expansion the major systems components/restraints which shaped the research model's design are as follows:

Faculty

- type: Full-time (F.T.), Part-time (P.T.), lecturer
- rank: associate, assistant professor
- workload: minimum 18/maximum 24 credits per academic year
- annual contact hour availability
- percentage annual workload assignable to teaching
- thesis and internship credits: supervised by F.T.E. faculty only

FIGURE 3. AGGREGATE REPRESENTATION OF THE RESEARCH MODEL'S FUNCTION



Students

- type: Full-time (F.T.) or Part-time (P.T.)
- admission: 30/academic year

Curriculum

- degree: 90 credits.
- options: 2 (research/production).
- time: two to five academic years.
- course values: 3, 15, & 36 credits, respectively.
- course enrollments: only maximums available, class size varied by course activities.
- structure/sequence: student selected, some courses with prerequisites.

C. Flowchart of the Research Model

The research model of the system studied is represented (Figure 4) in flowchart format. The source code for the computer model is illustrated in Appendix A, (4).

FIGURE 4 MECHANIZED PORTION OF THE RESEARCH MODEL

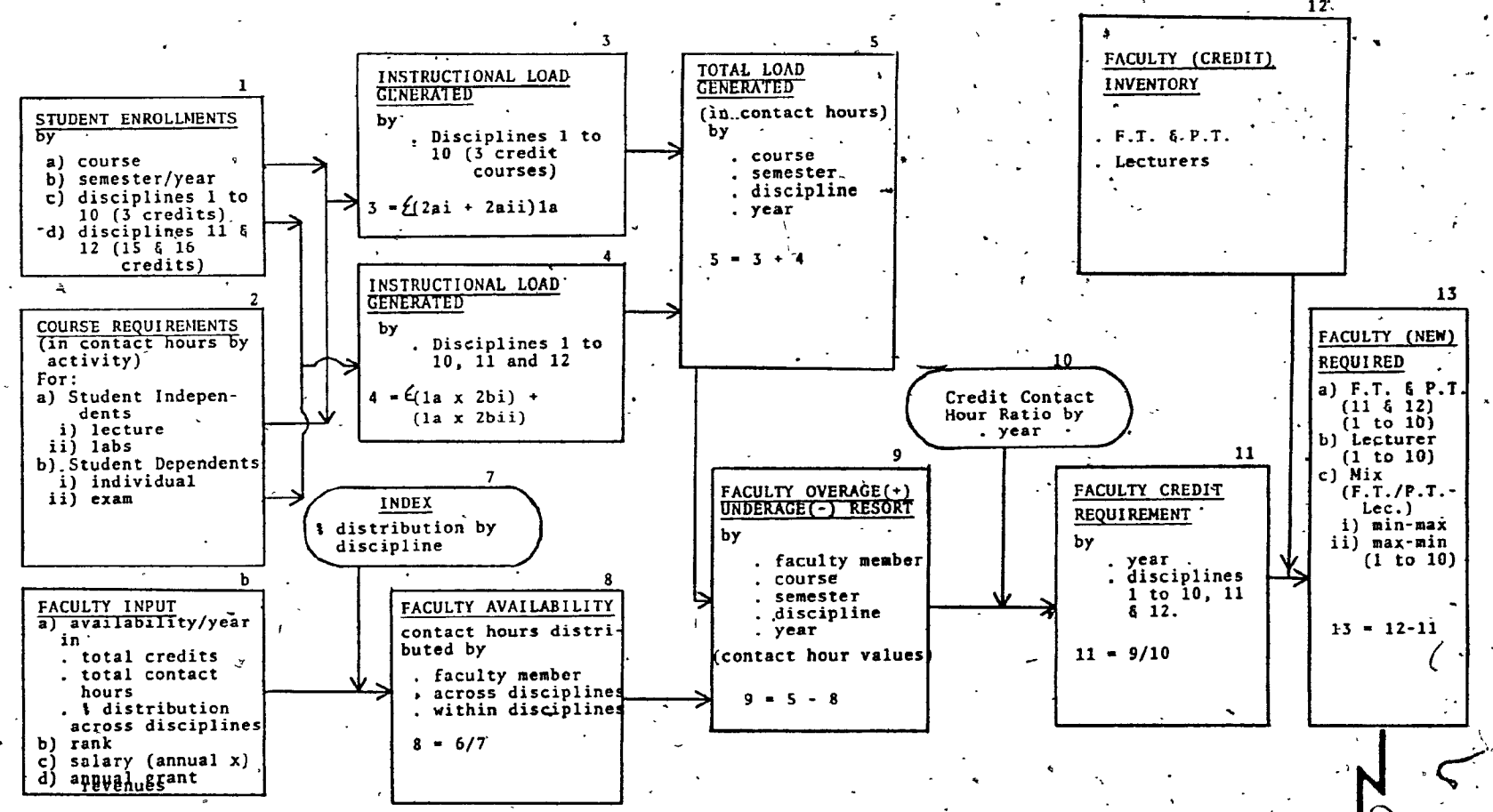
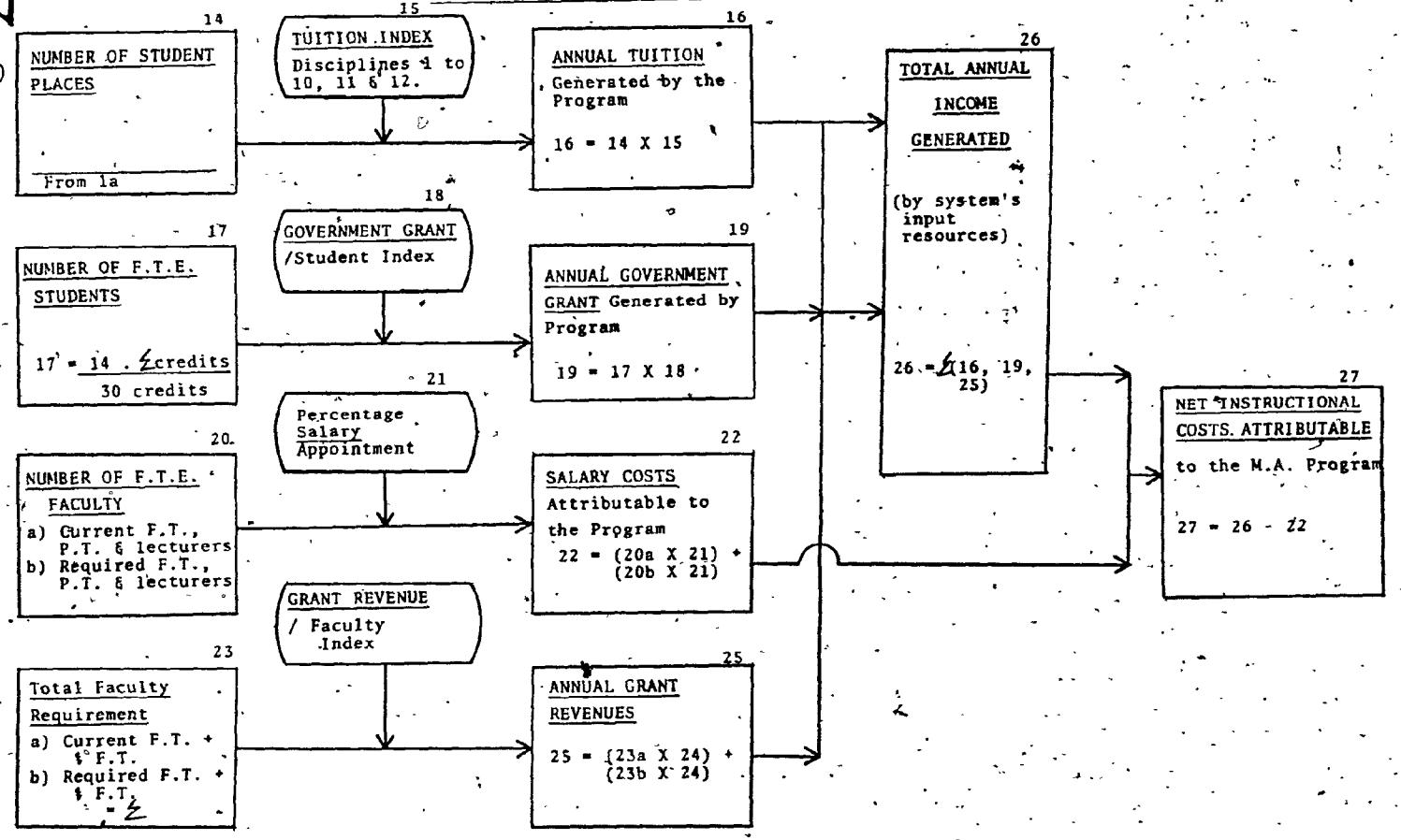


FIGURE 4a MANUAL PORTION OF THE RESEARCH MODEL



D. Methodology

i) Design Procedure:

The input data required and the form in which it was collected is contained (App. A.) and titled as "Course Requirements Input Data, Course Enrollments Input, and Data and Faculty Input", respectively. Appendix B. exhibits the instrument employed by faculty to weight, in terms of four activity levels, the faculty contact hour requirements of all course offerings. Definition and use of data fields exhibited on the input requirements forms are contained in the following discussion on the model's design procedure.

a) Determination of the Instructional Load required the functional employment of both course requirements and student enrollment data. Course offerings were stated in contact hour values per course as determined by the use of the 'course weights instrument' (App. B.). Courses were then grouped for content within their respective disciplines, one to twelve. The three credit courses which comprise disciplines one to ten inclusive were separated from the internship and thesis projects (disciplines eleven and twelve) in consideration of the:

- wide variances in both credit and contact hour values, and,

- type of faculty and instruction required for 'research' supervision.

Maximum course enrollments were specified in order that contact hour overages could be identified, thereby indicating the additional course sections and faculty required. Estimates of the student enrollments for the three credit courses for years 1978 to 1982 inclusive were based on both the historical and projected F.T. and P.T. student enrollments for years 1975 to 1982 inclusive (Mitchell, 1976) and, the number of student places generated by 'in system' students for years 1975 and 1976. It should be noted here that although this graduate program has been in existence for ten years, the specific academic years 1975, 1976 and 1977 were chosen for sample and test data in that:

- these years represented the most recent number and type of courses offered on a regular basis, (ie. annual basis)
- the student admissions and graduate rate appeared to be relatively stable, and
- the number and type of faculty available and the magnitude of the assigned instructional credit load appeared consistent.

In short, there was stability in both the system's instructional resource variables and

outcomes, respectively.

Therefore, from an assessment of Mitchell's report (1977b) and the trend in historical enrollment data, a ratio of students enrolled to student places generated in three credit courses of 100:325, respectively, was established. The student places were then distributed for an annual admission rate of thirty students per year within the three credit courses for years 1978 to 1982 in accordance with ranges of three credit course enrollments appearing for years 1975 to 1978 inclusive. Requisite courses and courses with prerequisites were noted and the latter were filled with the previous year's course enrollments in mind. A similar student place calculation was done for the expanded rate of sixty annual student admissions. The sixty course enrollments per annum were proportionately increased to reflect the influx of approximately 98 additional student places to be distributed across all three credit course offerings. Thesis enrollments for projected years 1978 to 1982 were set at twenty students annually for the thirty admission level and again increased proportionately for the sixty admissions level. A registration option within the 1975/1976 instructions and regulations handbook made it difficult

to ascertain exactly how many students were actively engaged in thesis work.* A problem was thereby created in that both the instructional resources consumed and required were not clearly identifiable. Therefore the assigned thesis enrollments are an estimate of the expected graduation rate and, in terms of resources consumed, they are submitted as a very conservative estimate. Internship work for the thirty admission level was set in a similar enrollment pattern for years 1978 to 1982 as appeared in the historical years 1975 to 1977. As before, the internship enrollments for the sixty admission level were increased proportionately for the projected years 1978 to 1982. The determination of instructional load for a maximum admission level in the three credit courses for projected years was established by the computer based on previously set maximum course enrollments and each courses' corresponding contact hour value(s).** Thesis and internship enrollments were set at thirty students for each

*Option of registering for thesis on program entrance or in the year thesis work started.

**See App. B. Course Weights Instrument

discipline. These enrollments reflected the maximum capacity of the current system's contact hour faculty availability for research courses. A credit/contact hour ratio was established by the computer for the three credit courses for all admission levels in all years. This credit/contact hour value required definition due to the varied course contact hour requirements, the need to establish in real terms the hourly faculty workload resulting from a department assigned credit workload, and considerations of faculty hiring and costing activities.

b) Determination of Faculty Availability and Distribution of Instructional Load

In establishing both the faculty input data (App. A3) and the quantitative values that appear in data fields of faculty load, discipline load and instructional hours, there were two major difficulties encountered. The first difficulty was a question of how best to establish an annual contact hour availability for F.T. faculty member for purposes of computer calculation requirements. Secondly, having established the above, how should this 'availability' be distributed in both a realistic and equitable manner amongst the program's course offerings? In consideration of the system's restraints and

the operational objectives of this paper, a faculty member with a 100% teaching appointment to the program was assigned an availability value of 1040 contact hours*/two semesters. The assignment of this contact hour value for one F.T. faculty was an independent decision, but it is submitted, was neither unprecedented nor indefensible given the fact that the contact hour values for the system's course requirements input were not weighted to allow for instructional preparation time. Part time faculty were assigned a contact hour availability that reflected their respective percentage teaching appointment to the program. Initially the lecturer's availability was set in accordance with the relative percentage of F.T. credits that the lecturer's courses represented. This 'availability' was also expressed in contact hour values.

The distribution of contact hour availability per year is represented in the following Faculty Distribution Matrix (Figure 5, F.D.M.), the concept of which sprung from the R.R.P.M. and C.A.M.P.U.S. models' I.C.L.M. procedure.

*40 hours weekly x 26 weeks (2 semesters) = 1040 hours

Figure 5 - Faculty Distribution Matrix

Faculty Code	Disciplines = Faculty load % / Discipline load %									
	1	2	3	4	5	6	7	8	9	10
1	30/ 60	30/ 25	-	-	-	40/ 40	-	-	-	-
2	33/ 40	-	-	33/ 80	-	-	34/ 100	-	-	-
3	-	-	50/ 90	-	25/ 10	25/ 50	-	-	-	-
4	-	35/ 60	-	-	55/ 50	-	-	-	10/ 30	-
5	-	33/ 15	-	-	34/ 40	-	-	-	33/ 70	-
20	-	-	-	100/ 20	-	-	-	-	-	-
21	-	-	-	-	-	30/ 10	-	-	-	70/ 100
22	-	-	-	-	-	-	-	100/ 40	-	-
23	-	-	34/ 10	-	-	-	-	66/ 20	-	-
24	-	-	-	-	-	-	-	100/ 40	-	-

The assignment of quantitative values or percentage availability over the three primary disciplines/faculty member within each discipline was arrived at through an analysis of:

- the number of courses taught by each faculty member,
- the number(s) of disciplines in which these courses were contained (ie. 1 to 12), and
- the amount of overlapping sharing of disciplines amongst faculty members, and the percentage 'discipline load' assignable to each faculty member.

Analysis of three credit courses indicated that no one faculty member regularly instructed in more than three disciplines, and some lecturers instructed in less than two disciplines. Thus the establishment of a maximum of three 'faculty-assignable' disciplines. Each faculty's total availability was then distributed in percentages across his/her three primary disciplines to reflect the number of courses taught in each. Distribution of availability within disciplines and amongst faculty (discipline load) was similarly quantified. Again, given the number of courses taught, each member's percentage responsibility was distributed in a representa-

tive manner within a specified discipline(s). Disciplines eleven and twelve were isolated and contact hour values separately calculated from the three credit disciplines in that the supervision of these courses were the instructional responsibility of F.T.E. faculty only. The assigned enrollment value for disciplines eleven and twelve was set at six students/each faculty member. This was the previously established maximum student load that each current faculty member could accommodate. The computer then filled for contact values both across and within disciplines, to the maximum percentage availability established per faculty member within the F.D.M., thereby establishing an 'individual' faculty member contact hour availability.

The faculty code and rank fields were employed for purposes of confidentiality of salary range specifications. 'M.A.' Time designated the percentage teaching appointment of a given faculty to the Ed. Tech. program and was employed to establish:

- on the basis of salary/rank, the cumulative salary costs assignable to this instructional program,
- contact hour values for partial teaching appointments and,

given a maximum assignable credit load of 24 faculty credits; the respective credit load of F.T. and P.T. faculty members.

It is noted that the total faculty contact hour availability does not vary in any historical or projected year. This was done for both technical and pragmatic reasons. The operational aspect was that this faculty 'constant' was intended to function as a 'built-in' or 'running' inventory against which a surplus or deficit contact hour value could be easily identified within any portion of any year specified.

The grant revenues data identifies for historical years were the actual monies generated by F.T. and P.T. faculty. Current total faculty grant revenues (G.R.) for projected years 1978 to 1982 was set at $27,500 per annum as an historical and mean ($\bar{x}$) estimate for potential faculty G.R.'s. The G.R. value set for each new faculty member to be hired was established on the basis of the current assistant faculty's individual mean G.R.'s, and set at $3,000 per annum. This done on the assumption that new staff would be hired at the assistant level and initially generate a lower G.R. At first glance, the G.R. data appears to be relatively insignificant in terms of the system's 'other' and

larger resource input incomes. However, the G.R.'s resulting from these projects are totally reinvested in the instructional system in terms of acquisition of faculty knowledge or professional development and more visibly for capital expenditures for hardware and software to be used by, and remain within, the system's instructional laboratories.

The output reports (App. C) entitled Faculty Overage/Underage Report, and Faculty Contact Hour Requirements were generated by the interaction of both the course requirements and course enrollments input, and the subsequently applied faculty input data. These output reports which are discussed in the following section represent contact hour requirements for annual admission levels of thirty and maximum student enrollment over years 1975 to 1982; and sixty student enrollment over years 1978 to 1982. Condensed versions of these complete output reports are contained within the text and are intended as a reference point for both the model adjustments that were required and the subsequent development of the manual portion of the system's model.

ii) Model Adjustments

The faculty's cumulative contact hour overages and underages within disciplines and years are illustrated below (Tables 1,2 & 3). Data for both historical and projected years, for annual admission levels of thirty and maximum course enrollments were included in order to demonstrate that an inordinately large or significant variance in contact hour requirements or credit/contact hour ratios appears either within or between, historical and projected year groups, respectively. This data consistency would indicate that the computer program was functioning effectively, and that the projected contact hour requirements for the system are within the realm of 'reasonable estimates'.

What would now appear to be the relatively simple task of converting the contact hour underages to the number of required faculty members does not specify either the type of faculty that is required, or where the faculty member is to be allocated amongst disciplines within the instructional system. The identification of staff required is further hampered by two additional system restraints. The first restraint being that

TABLE 1 - FULL FACULTY CONTACT HOUR CHECKLIST (+) / UNDERFUNDED (-) BY DISCIPLINE FOR AN ADMISSION LEVEL OF THIRTY STUDENTS

Year	Course Contact Hour (1981-82) / (1982-83)	1	2	3	4	5	6	Disciplines	8	7	9	10	Total	11	12	Annual Contact Hour (+ or -) / Cumulative
1975	115 / 118	682 466	357 998	164 458	167 423	351 980	0 548		41 264	903 552	850 332	98 233	3390 5054	1430 1664	572 254	-318 / 283
		+216	+441	+299	-256	+629	+548		-223	-191	+501	+135	+1664	+254	-318	
1976	83 / 105	118 466	284 998	143 458	100 423	430 980	194 548		53 264	622 552	66 332	62 233	2012 5054	1430 2962	572 1232	+960 / -9.00
		-348	+514	+315	+323	+550	+354		+211	-190	+266	+171	+2962	+153	+860	
1977	113 / 122	612 466	260 998	50 458	120 423	350 980	191 548		35 264	608 552	296 332	36 233	2608 5054	2860 2446	1594 414	-1008 / 955
		146	+538	+408	-303	+630	+357		+229	-96	-36	+197	+2446	-414	-1008	
1978	110 / 120	540 466	357 998	142 458	168 423	394 980	260 548		150 264	900 552	400 332	186 233	3099 5054	2600 1957	992 643	-1435 / 10.21
		74	+441	+316	+255	+576	+288		+214	-148	-68	+147	+1957	643	-1435	
1979	99 / 113	499 466	388 998	180 458	131 423	396 980	209 548		53 264	900 552	0 332	1157 233	2619 5054	2600 2435	572 165	- / [illegible]
		12	+510	+278	+285	+584	+339		+211	-168	+332	+96	+2435	-165	-987	
1980	102 / 117	490 466	224 998	116 458	198 423	362 980	241 548		44 264	609 552	456 332	190 233	2988 5054	2600 2266	992 334	-1126 / 473
		24	+534	+342	+245	+618	+307		+220	-55	-124	+143	+2266	-334	-1126	
1981	85 / 106	484 466	350 998	155 458	112 423	429 980	201 548		41 264	568 552	53 332	42 233	2450 5054	2600 2574	572 26	-598 / 592
		18	+448	+303	+311	+551	+347		+223	-16	+279	+191	+2574	-26	-572	
1982	113 / 122	344 466	293 998	96 458	156 423	440 980	195 548		50 264	938 552	400 332	66 233	2408 5054	2600 2346	992 254	-1046 / 4.61
		+122	+505	+362	+267	+540	+353		+214	-186	+68	+167	+2346	-254	-1046	
Total Course Contact Hours	103 / 116															

TABLE 2 - ANNUAL FACULTY CONTACT HOUR OVERHEADS (+) UNDERHEADS (-) AS TIME LINE FOR AN ADMISSION LEVEL OF MAXIMUM COURSE ENROLLMENT

YEAR	Course Contact Hour Volume	Course Contact Hour Requirements / DISIPLINES 1	2	3	4	5	6	Faculty Contact Hour Availability 7	8	9	10	11	12	Annual Contact Hour Limit
1975	135/133	604 466	505 998	268 458	368 423	557 980	0 548	95 264	935 552	800 332	126 233	4022 5054	3900 996	660 -2904
		+ 138	+ 293	+ 190	- 55	+ 423	- 548	+ 169	- 183	- 467	+ 107	+ 996	- 2934	- 3564
														13.48
1976	136/133	206 466	429 998	197 458	156 423	809 980	548 548	95 264	935 552	66 332	126 233	3287 5054	3900 1767	660 -2133
		+ 340	+ 569	+ 261	- 267	+ 171	0	+ 169	- 183	+ 266	+ 107	+ 1767	- 2133	- 2793
														12.30
1977	143/135	798 466	429 998	91 458	262 423	456 980	447 548	95 264	644 552	266 332	126 233	3274 5054	3900 1926	660 -2120
		+ 112	+ 569	+ 367	+ 161	+ 524	+ 101	+ 169	- 92	+ 66	+ 107	+ 1980	- 2120	- 2780
														12.28
1978	136/133	604 466	505 998	197 458	262 423	557 980	548 548	95 264	935 552	266 332	126 233	3829 5054	3900 1225	660 -2695
		- 138	+ 493	+ 261	+ 161	+ 423	+ 0	+ 169	- 183	+ 132	+ 107	+ 1225	- 2695	- 3355
														13.13
1979	139/134	498 466	409 998	403 458	262 423	557 980	548 548	95 264	935 552	0 332	242 233	3869 5054	3900 1185	660 -2715
		- 12	+ 369	+ 95	+ 161	+ 423	- 100	+ 169	- 183	+ 332	- 9	- 1185	- 2715	- 3375
														12.19
1980	135/132	604 466	998 998	197 458	262 423	557 980	548 548	95 264	935 552	66 332	126 233	3468 5054	3900 1586	660 -2314
		- 138	+ 520	+ 261	+ 161	+ 423	- 0	+ 169	- 183	+ 266	+ 107	+ 1586	- 2314	- 2974
														12.58
1981	135/133	604 466	505 998	403 458	262 423	557 980	548 548	95 264	935 552	66 332	126 233	3918 5054	3900 1133	660 -2967
		- 138	+ 493	+ 35	+ 161	+ 423	+ 0	+ 169	- 183	+ 266	+ 100	+ 1133	- 2967	- 3627
														13.27
1982	138/134	302 466	409 998	197 458	262 423	557 980	548 548	95 264	935 552	200 332	126 233	3451 5054	3900 1603	660 -2297
		+ 164	+ 369	+ 261	+ 161	+ 423	+ 0	+ 169	- 183	+ 132	+ 107	+ 1603	- 2297	- 2957
														12.55
K-Course Contact Hour	137/134													

TABLE 3 ANNUAL FACULTY CONTACT HOUR OVERAGES (+) / UNDERAGES (-) BY DISCIPLINES FOR AN ENROLLMENT LEVEL OF SIXTY STUDENTS

Year	Course Contact Hour Volume	Course Contact Hour Requirements / DISCIPLINES 1	2	3	4	5	6	Faculty Contact Hour Availability 7	8	9	10	Subtotal	11	12	Sum of Cols. 11 & 12
1975	125/125	564	395	170	233	497	351	65	986	450	94	3515	2650	972	
		466	998	458	423	980	548	264	552	332	233	5054	1539	-1061	-1853
		-98	+423	+282	+190	+483	+197	+199	-234	-62	+139	+1539	-1061	-1853	10.85
1979	109/150	448	319	203	136	497	256	65	863	10	144	2962	2600	252	
		466	998	458	423	980	548	264	552	332	233	5054	2092	-502	-1366
		+18	+499	+255	+237	+502	+292	+199	-216	+332	+89	+2092	-502	-1366	10.10
1980	155/157	504	237	136	213	426	292	50	666	666	86	3302	3350	1128	
		466	998	458	423	980	548	264	552	332	233	5054	1852	-1498	-2686
		-58	+561	+322	+210	+554	+256	+208	-114	-334	+147	+1752	-1498	-2686	12.13
1981	98/117	570	342	203	137	508	241	65	663	66	90	2868	3960	1144	
		466	998	458	423	980	548	264	552	332	233	5054	2156	-1914	-2858
		-106	+456	+255	+286	+472	+307	+199	-111	+266	+143	+2186	-1914	-2858	12.42
1982	125/135	312	281	144	233	463	310	41	913	860	156	3552	5000	1584	
		466	998	458	423	980	548	264	552	332	233	5054	1672	-3528	-5112
		+154	+517	+314	+190	+518	+238	+223	-161	-468	+147	+1672	-3528	-5112	15.86
% Course Contact Hour Volume	118/125														

the instructional supervision for both thesis and internship projects are assigned to the F.T. faculty only. The assignable faculty credit responsibility for these two courses were, in the original system's works, set at one and zero, respectively.

This latter credit value issue introduces the second restraint. Research courses are not equally valued in terms of contact hour credits assigned to the three credit courses within disciplines one to ten and as such they are not representative, either in terms of assignable faculty credits, or in terms of the contact hour resources consumed by both the thesis and internship projects on an annual basis. Therefore, in an attempt to remain within the system's current policy structure, it was independently decided that the least disruptive action in terms of the systems on-going function would be to weight the thesis and the internship credits at 3.0 and 0.5, respectively. These adjusted values were derived from both the annual contact hour values identified for the three credit courses which were generated by the automated

model, and also in consideration of the contact hour resources required (App. A. - Course Requirement Input Data) by each of the above two research courses per faculty member.

iii) Automated/Manual Model Interface

Assuming the credit revaluation of thesis and internship to be both a prudent and an acceptable decision, then only the question of staffing alternatives and staff allocation to meet the required contact hour deficits remains. By referencing the condensed faculty overage/underage reports (Tables 1,2 & 3. p. 38, 39 and 40) in all admission levels and for all years it is evident that contact hour underages have not, and do not occur until the application of disciplines eleven and twelve instructional requirements. Contact hour underages that occurred within disciplines one to ten if sizable, either in terms of the underage's relationship to the credit/contact hour ratio for that year, or in terms of the maximum contact hour values established/course, are logically traceable to the need for additional specific course sections. From the detailed "faculty output reports" (App. C.) added sections in the order of two

or three for any year would accommodate the occurrence of these unique 'spot' underages. Moreover, these added course sections are assignable to any faculty type (F.T., P.T. or lecturer). However, the above cumulative overages when applied to the contact hour requirements in disciplines eleven and twelve consistently* result in contact hour underages in all years and for all admission levels. The underages presented in Tables 1, 2, & 3, are of note with regard to two items. First, the magnitude of the total annual contact hour deficits and, secondly, the type of staff required to meet the specific instructional content of the deficit occurrences.

Notwithstanding the estimated nature of the projected contact hour requirements for years 1978 to 1982, the historical contact hour data definitely indicates that the total (annual) faculty contact hour availability is not equal to the total annual student generated contact hour requirements.

- How significant are these underages?
- Could they in fact be absorbed by the current faculty for projected years 1978

*academic year 1976 excluded.

to 1982?

- What additional contact hour effort on the part of the current faculty has to be expended in order to accommodate these contact hour underages from 1975 to 1978?

Again, referencing Tables 1,2, & 3 (p. 38, 39, and 40), the significance of these underages has been translated (far right columns) to an 'absorbable' daily faculty contact hour value. It is reemphasized here, that contact hour requirements/course were generated on the basis of a zero value for lecture preparation time for faculty. The 'absorbable' daily contact hours therefore indicates faculty time over and above the previously established eight hours daily. Preparation time over the above the 'absorbable' hours shown leads one to consider first the physical effort required of the faculty, and secondly, qualitative considerations such as the faculty's ability to sustain an effective productivity level and that effect on both the instructional processes and the system's output (graduates) product. Given the magnitude of the total annual contact hour underages and the

relevance of the repercussions noted above, it can be stated that, additional faculty are required for the system's current admission level of thirty students/annum. By extension, then for both an expanded system state, or for an admission level greater than thirty students, additional faculty are also required. It is now time to address the second operative concern that being the development of the procedures employed to allocate current faculty resources as well as identify both the number and type of faculty required for the current and expanded system states with regard to model validity. It is noteable that, whether or not the annual contact hour deficits identified are converted to F.T.E. faculty in terms of model values (1040 hours = 1 F.T.) or in terms of the departmental method of assigned credit values (18 to 24 annual credits = 1 F.T.), that the same numbers of F.T.E. faculty are required. (Table 4)

TABLE 4 COMPARISON OF SYSTEMS CREDIT/CONTACT HOUR MEASURED TO FULL TIME FACULTY EQUIVALENTS

Admin Level	Min/Max Contact Hours Faculty Hour		Credit hour Contact Ratio		FTE Faculty Required Due Model (1st + 10 yrs) 3CM (1st + 5 yrs)			
	A7604	A9210	A7604	A9210	A7604	A9210	A7604	A9210
30	3150 / 1608.0	2798.0 / 1435.0	118 / 122	106 / 120	.500 / .969	.575 / 1.375	.336 / 1.03	.705 / 1.494
Maximum	3988 / 3564.0	2959 / 2422.0	135 / 193	134 / 133	2.623 / 3.426	2.543 / 3.285	2.534 / 4.349	2.237 / 3.220
60	not run / not run		not run / not run	120 / 132	not run	1.33 / 4.915	not run	1.422 / 4.240

As previously stated the automated portion of the model identified course contact hour overages. The automated model was not intended to create additional course sections indicated by these contact hour overages, nor was it set to assign the required instructional faculty member/course. Therefore, for both the above reasons, and in order to work within the system's established hiring and faculty assigned credit (workload) practices, 'credit' values will be used in the following faculty assignment procedure.

iv) Faculty Credit Assignment Procedure (Manual Portion of the Model)

In consideration of the majority of both faculty and student valued credits that are represented by thesis and internship courses and, the student practice of completing research projects as the last requirement for the program's degree, it was decided to design and sequence the faculty credit assignment in the following manner. Given a difference in annual maximum credit availability for combined F.T. and P.T. faculty (87 credits) and lecturers (21 credits) the sequencing precedes as follows:

- Theses and Internship credits were the first values to be subtracted from the annual faculty credit availability.
- If additional faculty were required at this juncture, a note was made of the credit requirement in terms of F.T.E. faculty credit value
- If a credit overage resulted, this was added to the 21 credit lecturer's input and assigned to disciplines one to ten credit requirements
- If a deficit occurred on completion of the previous step, the cumulative credit value was noted (for salary cost considerations) for the three possible faculty alternatives (F.T.E., lecturer, or a mix F.T.E. and lecturers).

Credit requirements established for thesis and internship were based on the number of students registered by the revalued credits of three and 0.5 respectively. Credit requirements for disciplines one to ten were based on the number of section offerings by a three credit course value/section. The faculty assignment procedure was employed for all years and all admission levels.

TABLE 5 F.T.E. FACULTY REQUIRED FOR ALL ENROLLMENT LEVELS AND ALL YEARS

Year	Enrollment Levels	Maximum Faculty Credit Hours Required	Theory Required (12)	Faculty Credit Hours Remaining	Internship Required (6)	Faculty Credit Hours Remaining	Faculty Credit Hours Needed (Salaried)	No. of F.T. Faculty Required	Total Faculty Credit Hours Required	—	Disciplines Number of Students	Credit Value	010 Credit Hours Remaining	Total Credit Hours	Total F.T.E. Faculty Required
1975	30	87/21	11 33	54/21	26 18	54/21	0	0	57		30	90	-33	10/33	1.57
	Maximum		30 90	-3/21	30 15	-18/21	18	.95	21		30	90	-69	18/69	3.63
1976	30	87/21	11 33	-54/21	26 13	141/21	0	0	60		24	72	-10	0/10	.41
	Maximum		30 90	-3/21	30 15	+18/21	18	.95	21		24	72	-51	18/21	2.81
1977	30	87/21	22 66	21/21	27 13	15/21	0	0	29		23	69	-40	0/40	1.66
	Maximum		30 90	-3/21	30 15	118/21	18	.95	21		23	69	-42	18/42	2.95
1978	30	87/21	20 60	27/21	36 18	19/21	0	0	30		28	84	-54	0/54	2.25
	Maximum		30 90	3/21	30 15	118/21	18	.95	21		28	84	-63	18/63	3.38
	60		20 60	27/21	36 18	9/21	0	0	30		28	84	-54	0/54	2.25
1979	30	87/21	20 60	27/21	26 13	115/21	0	0	36		27	81	-45	0/45	1.88
	Maximum		30 90	-3/21	30 15	-18/21	18	.95	21		28	84	-63	18/63	3.38
	60		20 60	27/21	39 19	3/21	0	0	29		27	81	-52	0/52	2.16
1980	30	87/21	20 60	27/21	36 18	19/21	0	0	30		27	81	-51	0/51	2.13
	Maximum		30 90	3/21	30 15	118/21	18	.95	21		26	78	-57	18/57	3.13
	60		25 95	12/21	54 27	15/21	15	.67	21		27	81	-60	15/60	3.13
1981	30	87/21	20 60	27/21	26 13	15/21	0	0	36		29	87	-51	0/51	2.13
	Maximum		30 90	3/21	30 15	-18/21	18	.95	21		29	87	-66	18/66	3.50
	60		30 90	-3/21	52 26	-39/21	29	1.50	28		29	87	-59	29/59	3.67
1982	30	87/21	20 60	27/21	34 17	19/21	0	0	30		24	72	-42	0/42	1.75
	Maximum		30 90	-3/21	30 15	-18/21	18	.95	21		25	75	-54	18/54	3.00
	60		40 120	-33/21	72 36	-69/21	69	3.00	24		25	75	-51	69/51	5.00

The results of this procedure appear in Table 5 - "F.T.E. Faculty Required For All Admission Levels and All Years". Referencing the aggregate representation of the model's total structure (Fig. 3, p. 22), the final model segment, that of the costing procedure, was designed to transform the previously identified annual credit/faculty requirements to salary cost values. Simply stated, this cumulative accounting procedure was a matter of totaling the system's income potential (resource inputs) and from that, subtracting a singular expenditure, both current and future, and required, faculty salaries. The income possibilities were identified as:

- student tuition,
- annual government grants per F.T.E. student, and
- grant revenues (G.R.) generated by faculty

Faculty salaries for new staff are a function of the identified total annual credit deficits. (Table 5) In accordance with the current staffing practices, these annual credit requirements could be filled by either F.T. or P.T. faculty in percentage teaching appointments of 50, 66, or 75, respectively, or in

faculty combinations thereof which would also include lecturers. The four types of staffing alternatives employed to meet the total annual credit deficits identified are identified as:

- lecturers only,
- F.T. or P.T. only (F.T.E.), or
- a combination of minimum F.T.E., and maximum lecturer or
- a combination of maximum F.T.E. and minimum lecturer.

The resultant faculty salary costs for newly hired faculty were based on an assistant faculty member's mean ($\bar{x}$) annual salary. Annual instructional salary costs attributable to the system for current faculty were held constant at $95,700. Supportive financial data and documentation used for purposes of this accounting exercise are exhibited (App. B.)

The description of the costing procedure that follows was employed for all admission levels in all academic years.

v) Costing Procedure

From Table 5, p. 49, the faculty required to meet both the current and projected credit deficits have been converted (Table 6) to their specified faculty alternative salary requirements.

TABLE 6 SALARY REQUIREMENTS FOR FOUR FACULTY ALTERNATIVES TO MEET CREDIT REQUIREMENTS FOR ALL YEARS AND ALL ADMISSIONS LEVELS.

YEAR	ADMISSION LEVEL	REVENUE SALARY FOR DOC 11012	DIFFERENCE IN SALARY REQUIREMENTS (#1000's) ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	ABSOLUTE SALARY REQUIREMENT TIMES FACULTY ALTERNATIVES 1004 (#1000's) ALT 1	ALT 2	ALT 3	ALT 4
1975	30	0	15.95	30.00	20.15	31.45	15.95	30.00	20.45	31.45
	Maximum	15,000	33.35	60.00	37.55	56.45	48.35	85.00	57.55	91.45
1976	30	0	14.35	30.00	—	—	14.35	30.00	—	—
	Maximum	15,000	34.60	64.00	28.85	41.45	39.65	65.00	49.85	56.45
1977	30	0	18.85	33.40	23.05	34.85	18.85	33.40	23.05	34.85
	Maximum	15,000	23.20	40.00	27.40	41.45	38.20	65.00	40.40	56.45
1978	30	0	26.10	50.00	30.30	51.45	26.10	50.00	30.30	51.45
	Maximum	15,000	29.00	53.40	34.65	51.45	44.00	66.40	49.65	66.45
	60	0	26.10	50.00	30.30	51.45	26.10	50.00	30.30	51.45
1979	30	0	21.95	40.00	25.95	31.45	21.95	40.00	25.95	31.45
	Maximum	15,000	29.00	53.40	34.65	51.45	44.00	66.40	49.65	66.45
	60	0	24.65	50.00	30.30	41.45	24.65	50.00	30.30	41.45
1980	30	0	24.65	50.00	28.85	41.45	24.65	50.00	28.85	41.45
	Maximum	15,000	29.55	50.00	31.75	51.45	40.55	65.00	46.75	66.45
	60	13,400	29.40	51.00	33.20	51.45	40.40	63.40	46.60	64.85
1981	30	0	24.65	50.00	28.85	41.45	24.65	50.00	28.85	41.45
	Maximum	15,000	31.90	55.40	36.10	59.85	46.90	90.00	51.10	69.85
	60	30,000	29.00	50.00	29.20	51.45	29.00	50.00	66.20	51.45
1982	30	0	20.30	35.00	24.50	34.85	20.30	35.00	24.50	34.85
	Maximum	15,000	26.10	50.00	30.30	51.45	47.10	65.00	45.30	66.45
	60	60,000	24.65	50.00	28.85	41.45	54.65	100.00	55.85	101.45

The F.T. or P.T. faculty salaries required to meet 'absolute' credit needs in disciplines eleven and twelve (Table 6 - Col. 3), have been added to the four available faculty salary alternatives in order to identify the total base or absolute salary need for both the systems current and projected states for disciplines one to twelve inclusive. It is to be noted that these four alternative base salary costs are in addition to the salaries of faculty currently employed in the instructional system. Therefore, when considering the total instructional faculty salary costs, an additional and estimated $95,700 must be added to these four alternative faculty salary cost subtotals.

Table 7 (p. 54) represents the actual (historical) and estimated (projected) income generated by the system's input resources. From Table 7 the student thesis enrollments differ as of 1977 from the 'active' enrollment estimates previously stated. These thesis enrollment numbers were estimates and due to the first year thesis registration requirement. For purposes of income calculations in student tuition and government

TABLE 7 - ANNUAL STUDENT GENERATED INCOME.
(Historical, and Projected)

(# 000's)

YEAR	PROGRAM LEVEL	COURSE INCOME	ENROLLED THERE	CAPITAL EXPENDITURE	TOTAL TUITION	50 FTE GENERAL GRANT	TOTAL INCOME
1975	30	10.26	8.64	5.40	24.30	309.20	333.10
	Maximum	18.60	10.80	4.50	33.90	429.40	463.30
1976	30	7.64	3.96	3.90	16.50	309.00	325.50
	Maximum	16.95	10.80	4.50	32.25	408.50	440.95
1977	30	8.85	16.20	5.55	30.60	352.60	418.20
	Maximum	14.16	30.60	4.50	49.26	625.96	675.22
1978	30	11.04	10.80	5.40	27.24	344.66	391.87
	Maximum	18.30	30.60	4.50	53.40	676.40	729.80
	60	13.92	21.60	5.40	40.92	512.32	559.24
1979	30	10.53	10.80	3.90	25.23	338.67	363.31
	Maximum	18.75	30.60	4.50	53.85	682.10	735.95
	60	13.05	21.60	5.85	40.50	513.00	553.50
1980	30	9.45	10.80	5.40	25.65	324.96	350.61
	Maximum	17.40	30.60	4.50	52.50	665.00	717.50
	60	11.67	21.60	8.10	41.37	524.03	565.39
1981	30	19.35	10.80	3.90	24.45	321.30	345.75
	Maximum	19.65	30.60	4.50	54.75	693.50	748.25
	60	12.48	21.60	8.80	41.28	530.48	572.36
1982	30	19.24	10.80	5.40	25.44	322.24	347.68
	Maximum	16.35	30.60	4.50	51.45	651.90	703.15
	60	11.70	21.60	10.80	44.10	558.60	602.70

grants, it was assumed that this first year thesis enrollment requirement was practiced by all newly admitted students. Therefore all students enrolled in thesis projects were considered active thesis candidates. Government grant/F.T.E. student monies were calculated in accordance with the appended formulaes (App. B.). Total annual faculty grant revenues, other than those actual and estimated monies generated by current faculty, are dependent on the faculty alternative(s) chosen to meet the credit deficits within any year specified. Table 8 "Net Revenues Attributable to the Instructional System", identifies for current faculty and the four new faculty alternatives the estimated annual G.R. potentials. Current faculty G.R. was set and held at $27,500/annum (the mean historical value generated) for projected years 1978 to 1982, inclusive. New faculty's ability to generated G.R. monies was estimated at $3,000 per member per annum. These G.R. values are listed separately within each faculty alternative by year and admission level and were not used in the calculations of the four potential net revenues.

TABLE 8 - NET REVENUES ATTRIBUTABLE TO THE INSTRUCTIONAL SYSTEM

YEAR	ADMISSION LEVEL	ANNUAL STUDENT REVENUE	ANNUAL STUDENT EXPENSE	NET	GROSS	EXPENSE	NET	GROSS	EXPENSE	NET	GROSS	EXPENSE	NET	GROSS
		ANNUAL STUDENT REVENUE	ANNUAL STUDENT EXPENSE	NET (O)	GROSS	EXPENSE	NET (D)	GROSS	EXPENSE	NET (G)	GROSS	EXPENSE	NET (V)	GROSS
					INCOME REMAINING FOLLOWING THE DEDUCTION OF EACH OF THE FOUR FACULTY GROUPS (1000's)									
1975	30	350.10	111.65	220.45	10.50	120.70	206.64	16.50	115.85	216.25	13.50	127.15	204.95	16.50
	Maximum	463.30	114.05	349.25	30.50	180.70	250.60	39.50	142.25	315.05	33.50	167.05	296.15	39.50
1976	30	285.50	160.05	125.45	20.50	105.70	99.80	26.50	95.70	129.80	22.50	95.70	129.80	22.50
	Maximum	446.75	135.35	305.40	30.50	160.70	286.05	39.50	129.55	301.20	33.50	150.15	312.60	36.50
1977	30	418.20	114.55	303.65	49.40	129.10	259.10	55.40	118.75	299.45	52.40	130.55	287.65	55.40
	Maximum	673.21	113.90	559.31	30.50	156.70	522.51	36.50	138.10	535.11	33.50	150.15	521.06	36.50
1978	30	391.17	121.80	250.07	27.50	145.70	226.17	36.50	156.00	246.67	30.50	147.15	234.72	36.50
	Maximum	929.30	139.70	570.10	30.50	164.10	565.90	39.50	145.35	584.45	33.50	162.15	567.65	39.50
	60	659.24	121.80	473.44	27.50	145.70	413.54	36.50	156.00	433.24	30.50	147.15	442.09	36.50
1979	30	363.81	113.45	246.36	27.50	135.70	228.11	33.50	121.65	242.16	30.50	137.15	226.66	33.50
	Maximum	935.95	139.70	596.85	30.50	164.10	571.60	39.50	145.35	596.60	33.50	162.15	573.80	39.50
	60	553.50	120.35	433.15	27.50	145.70	409.80	36.50	156.00	427.50	30.50	137.15	416.35	33.50
1980	30	350.55	120.35	230.20	27.50	145.70	204.55	36.50	124.55	226.10	30.50	137.15	213.40	33.50
	Maximum	919.50	139.25	579.85	30.50	160.70	556.80	39.50	142.45	576.05	33.50	160.15	555.35	39.50
	60	565.39	135.10	432.29	30.50	159.10	406.09	39.50	142.30	422.09	33.50	160.55	408.84	39.50
1981	30	353.15	120.35	232.80	27.50	145.70	207.45	36.50	124.55	228.60	30.50	137.15	216.10	33.50
	Maximum	947.25	142.60	605.65	30.50	165.70	592.55	39.50	142.80	601.45	33.50	165.15	592.27	39.50
	60	570.46	154.70	415.66	33.50	175.70	396.66	40.50	141.90	365.46	36.50	177.15	385.01	40.50
1982	30	347.68	116.00	231.68	27.50	130.70	216.98	33.50	120.50	227.18	30.50	130.55	217.13	33.50
	Maximum	903.15	136.80	566.35	30.50	160.70	542.45	39.50	141.60	562.15	33.50	162.15	541.00	39.50
	60	602.90	180.35	422.55	36.50	205.70	397.00	45.50	154.55	418.15	39.50	187.15	415.55	40.50

IV. Analysis of Findings:

A. Introduction

Within the following discussion there are two subsections. The first section deals with the validity of of the research model and as such responds to the theoretical concerns of this research paper. Secondly, the financial feasibility of the system's instructional resource requirements are considered. This latter section addresses the previously identified operational concerns (p. 3, 5, and 6) and the specified research objectives contained therein.

1) Validity of the Research Model

The first, or automated, portion of the research model attempted to measure the instructional resource requirements of the faculty in both contact hour and credit/contact hour values. The response to the question of model validity is not submitted here in purely statistical terms, but rather stated in the model's ability to accurately represent the system's instructional resource requirements. Working within the policy structure of the system, and by employin the "minimum 18, maximum 24" annually assignable credits to F.T.E. faculty, Table 4 (p. 46) was presented to demonstrate variances in the faculty required by comparing the two model measures to the department's use of the credit measure. In terms of validity, as defined by model representativeness, the

largest variance demonstrated between either the model's contact hour availability value and the department credit values or credit/contact hour values and department values for required faculty was 0.130 F.T.E.'s. In terms of course credits or F.T.E. salary dollars, this model/department variance is equivalent to 3.12 credits or $2,600, respectively. Therefore, it is submitted that the research model is valid to within a 3 credit course value, or a faculty contact hour value of 130 instructional hours and as such is valid by all measurement methods employed herein.

The data generated by the automated model was invaluable in:

- initially establishing the existence of annual instructional resource underages in contact hour values
- identifying the current faculty's contact hour effort expended in order to fulfill the department assigned course credit and student generated instructional/credit workload
- identifying an actual contact hour value/course credit, and thereby pointing the way to the revaluation of both thesis and internship credit values, and
- the development of the manual portion of the research model wherein, for purposes of the appropriate

(ie. according to an identifiable instructional need) allocation of F.T.E. faculty by number and type, a breakdown (by discipline) of annual contact hour underages was required.

In short, the automated model identified both the system's general and specific instructional resource requirements, some of which it is added required further probing. The automated model was not designed to account for the fact that for each section or course a presiding faculty member was required, nor was it capable of filling courses to a specified maximum and thereby creating additional course sections where needed. Course contact hour overages were anticipated and flagged as such within the computer program.

Therefore, in consideration of:

- the objective functions of both the mechanized and manual portions of the model
- the viability of the research model within the identified policy constraints of the current instructional system, and
- the negligible differences in F.T.E. faculty required resulting from the above comparative analysis of the model measurements and system's measurements. (Table 4, p. 46).

The total research model is submitted as valid/representative of the instructional resource requirements of the

system under study. Valid, it is submitted to a ± 3.0 credit course value which represents one course out of a potential 35 course offerings, or $2,600.00 F.T.E. faculty dollars.

At the level of theoretical issues and from within the problem statement, the term "appropriately applied" was, as in the above discussion on model validity, intended to connote "simulative", representative, or properly functional. There now remains a measurement and definition of the term "successfully applied", which brings us to the operational issues contained within the boundaries of this research paper.

B. Operational Findings

1) Developmental Background

Given the availability of qualified faculty (MEN) and the interest evidenced by the sizeable number of annual student applications (MATERIALS), the remaining link in this economic chain is that of MONEY. It would be difficult, if not impossible, to refute the need for this latter commodity in order that the system studied could continue to function in ongoing, expanded, or improved states. Therefore, throughout the following discussions, the measurement of the "successful" criterion of the model's application will be dealt with largely if not entirely, in monetary terms. However, before proceeding to the financial aspect, there are three system elements

which require a short notation. Maximum admission level was initially included in the mechanized portion of the model in order to determine, given the respective maximums assigned for each course offering, the actual physical limits of the instructional system. That is, if the system was enrolled to its maximum enrollment/course what instructional resources would be required, and what admission level/annum would have to be realized in order to attain this physical limit? Working from both the total student places generated/year for three credit courses, and from the previously established (p. 28) student to student places ratio of 100:325 respectively, the resultant mean ($\bar{x}$) admission level was estimated (over the eight year span studied) at 83.5 students annually. Two factors preclude the attainment of this annual admission rate. First, is the one-out-of-three student applicant rejection rate (P.D. Mitchell, 1977) for a total maximum of 100 applicants/year. Secondly, it is extremely unlikely, given the random nature of student course selection, that each course would fill to its exact maximum. The above notwithstanding, it was essential to identify the admission level which would result from a maximum course enrollment in order to establish that an increase of 20 to 25 student admissions per annum did not exceed either the system's space limitations or its physical resources. The maximum

enrollment data was of value, at least in theoretical terms, in identifying net revenues, faculty alternatives and salary costs for this maximum enrollment condition. For the above reasons, financial data on maximum enrollment has been included in all previous tables even through the major thrust within the following analysis will be on the feasibility of an annual admission level of 60 students for the projected years studied. References made to an expanded system's state or an increased enrollment is intended always to connote an admissions level of 60 students annually. Although it was initially proposed (P.D. Mitchell, 1977) that the current admissions rate be increased to include an additional 20 to 25 students, an annual admission level of 60 students is, with the usual 10% drop-out and no show rate, in effect increasing the annual admissions rate by the proposed number of 20 to 25 students. The two remaining aforementioned notations are linked to the historical data. This researcher was mainly concerned with designing a model which would be sufficiently representative of the system under study in order to detail both the physical viability and financial feasibility of an increased admission rate. No consideration was given to identifying data for the annual admission level of 60 students for historical years and as such this was, retrospectively speaking, an oversight on the part of this researcher.

It would have been perhaps both more theoretically and programmatically sound, given the attributable net revenues and staff requirements of the system resulting for projected years, to have had a comparative (ie. historical) data base from which to work. However, that stated, and from a hand-calculated rerun on this historical section of data, this researcher found that the resultant financial considerations, given the start-up time required for an increased enrollment, were roughly parallel (± $5,000) to those figures appearing for projected years 1978 to 1982 inclusive as viewed in Table 8 (p. 56). Therefore, while the data oversight is conceded as an error in judgement on the part of this researcher, it is contended that, given the hand-calculated rerun and the above results, both a logical and pragmatic means were employed in order to amend the noted data omission.

The final notation relates to 'exception' conditions on data and calculated results stemming from an admission level of 30 in academic year 1976. In the two other historical years employed (1975 and 1977) the mechanized model initially tabulated contact hour underages -318 to -1008 per year. (Table 1, p. 38) In 1976, an annual total faculty contact hour overage of +960 was identified. The relative size of this overage was significant enough, in terms of a F.T.E. faculty value, to warrant researching the source data in order to determine what factor(s) were either directly responsible or related (in combination) to effect this contact hour overage. It was found that for year 1976 the total faculty availability (due to one sabatical leave) was, in fact, not equal to either of the other historical years nor to the faculty inventory value run for projected years. It is submitted then, that this faculty sabatical factor alone accounts for the resultant contact hour overage identified in academic year 1976. Other factors that were identified through researching the source data are listed as follows:

- a decrease in course offerings which may have resulted in P.T. students scheduling unavailable courses for a later year,
- a decrease in the annual total enrollment, enrollment being down from 1975 and 1977 by 64 and 28 student places, respectively, and

. the change in registration requirements for thesis registrants. It is suggested that the increased monetary expenditure required on the part of the newly admitted student resulted in a decreased enrollment within the available three-credit courses.

In that a sensitivity analysis was not run on these factors, it is difficult to state to a high degree of assurance that the sabbatical leave factor was the singular cause of this contact hour overage which consistantly appeared in 1976. What can be stated is that, due to the inaccuracy of source data on faculty availability, little if any comparative value was placed on the resultant financial calculation for year 1976.

ii) Analysis of Operational Concerns

Although this research paper has been confined to the direct or immediate instructional aspects of the system under investigation, this researcher is fully aware of the myriad of items which can fall under the 'catch-all' category of overhead or 'support costs' when dealing with systems of an education nature. Salaried costs, for the purposes of this paper, have been categorized in a very simplistic manner. Estimates of salary indices (ie. cost of living) were not available. 'Other' faculty costs (health care, sick leave, pension plans, etc), which are costs directly attributable to the system studied and which are the financial responsi-

bility of the total (university) system, were not employed within the following cost comparisons. These 'support costs' are 'detailed' and are fluctuating in nature and were therefore omitted in that the research model was not designed for this level or type of data input. Secondarily, the very nature of the data required, again, bordered on 'privileged' information. Net revenue, a term frequently employed requires definition, and is simply the arithmetical difference between the sum of the system's annual input resource dollars and the collective faculty's annual salaries.

Given the major operational concerns cited (p. 3, 5, and 6), there are effectively two major questions that require both an analysis and a detailed response. These are that given the projected student generated instructional requirement is a request for required faculty for either system states both a financially feasible/justifiable and a physically viable proposal, and as such, which of the four previously identified faculty alternatives would most adequately meet both the financial concerns and the instructional requirements for the system states. Therefore there are in actuality a total of four operational issues to be discussed.

In that information on both the method of distribution of funds and rationale for amounts of funds

allocated to the system was, to say the least, scarce, budgeting projections from the most recent Budget for Graduate Studies (BGS) appraisal (P.D. Mitchell, 1977) were employed for the purposes of establishing a comparative base for the subsequent costs analysis. Budget projections for academic years 1977 and 1978 cited a $313,162 allocation of funds for use by the instructional systems current state. Of this amount, slightly more than $200,000 was earmarked for faculty salaries. This latter figure represents a faculty salary requirement of 63.86% of the system's total allocation of funds. In addition to the BGS budget projection, the related literature would also provide supportive documentation in favor of faculty salaries usually consuming the major portion of the system's allocated funds. The $200,000 salary consumption on the projected 1977/1978 budget was used both to illustrate this percentage issue and additionally because these figures were the most recent and available source of documented fund allocation data.

In returning to the initial operational query of the financial feasibility of faculty requested for the system's current state, and while on the theme of budget projections, let us scan Table 9, ('Faculty Salary Range For Annual Credit Requirements'). For years 1978 to 1982 inclusive, neither $200,000 in faculty salary nor a major percentage (ie. an amount greater than 50%)

TABLE C. FACULTY SALARY RANGE FOR ANNUAL CREDIT REQUIREMENTS (*1000's)

YEAR	FORMULA LEVEL	STUDENT INCOME GENERATED (*1000's)	STAFFING RESPONSIBILITY	MOST NET REVENUE REQUIRED	PERCENT INCOME REQUIRED	STAFFING RESPONSIBILITY	LEAST NET REVENUE REQUIRED	PERCENT INCOME REQUIRED
1975	30	330.10	1	220.45	.66 %	4	204.95	62 %
	Maximum	463.30	1	349.05	75 %	2	292.60	63 %
1976	30	305.50	1	185.45	56 %	2	99.80	44 %
	Maximum	440.95	1	300.40	69 %	2	250.00	64 %
1977	30	412.20	1	383.65	93 %	4	257.60	69 %
	Maximum	501.02	1	367.12	73 %	4	348.57	70 %
1978	30	371.87	1	250.07	67 %	4	224.72	60 %
	Maximum	559.60	1	417.90	75 %	2	393.50	71 %
	60	559.24	1	439.48	78 %	4	442.09	79 %
1979	30	363.81	1	246.36	68 %	2	237.11	65 %
	Maximum	563.95	1	424.05	75 %	2	399.65	71 %
	60	553.50	1	433.15	78 %	2	489.80	74 %
1980	30	350.65	1	230.20	66 %	2	204.85	58 %
	Maximum	545.30	1	407.05	75 %	4	383.15	70 %
	60	665.87	1	427.69	76 %	4	614.14	92 %
1981	30	353.15	1	232.70	66 %	2	202.45	57 %
	Maximum	676.05	1	439.55	75 %	2	616.35	91 %
	60	572.36	1	417.66	73 %	3	365.46	64 %
1982	30	347.68	1	231.69	67 %	2	216.98	62 %
	Maximum	591.06	1	376.26	74 %	4	528.01	69 %
	60	602.30	1	432.35	70 %	2	409.40	66 %

of funds generated by the systems resources is ever exceeded! In fact, if for academic year 1977 we identify from the BGS appraisal the salaried dollar difference between funds budgeted and funds consumed, a discrepancy in favor of funds budgeted occurs in the order of $100,000 (rounded figure). This latter amount, in terms of faculty members, is equal to salaries that would hire four F.T.E. faculty members. From the manual portion of the research model for year 1977, the system required and did not receive faculty coverage for 40 credits or a faculty value of 1.66 F.T.E. This is not to exclude historical year 1975, where it is noted that, although the figures are slightly less dramatic, the principal exampled runs a direct parallel. Here it is again repeated that resource data and faculty salary calculations illustrated in Table 9 are based on an identifiable instructional need and the theoretical assumption that, given this 'need', the faculty required have been (or would be) approved and hired.

From the financial data, for both the historical and projected years for the system's current state, the following two general observations are made:

. The current system's state appears to be generating sufficient funds in order to support the faculty salaries required to meet the identified instructional needs.

. Secondly, that if the system continues in its current enrollment pattern, year 1980 would appear to be the year in which faculty salaries would consume the largest percentage of the system's generated income.

Let it be noted here that the collective faculty salary of $145,700 for 1980 is neither equal to the BGS projection of $200,000 nor consumes the major (> 50%) portion of the system's generated income of $350,055. Therefore, given this system's modest consumption of resource generated income, it should be capable of supporting the increase in student enrollment or an expanded system's state.

It is conceded that, in order to be totally objective, one should view this systems request for faculty in terms of the total (department/university system) system's faculty needs. However, it is contended that in terms of both amounts of funds earmarked for faculty salaries for 1977 and the annual incomes generated,

that the salary costs identified for the faculty needed to meet this instructional requirement and therefore the faculty requested, is a feasible proposition. Costs other than direct instructional ones (ie. faculty salaries) intentionally have not been identified other than mentioned of the somewhat nebulous category of 'support' costs. With regard to this, 'support costs' issues have been sidestepped rather than ignored as a non-existent for, by initial definition, this paper is limited to purely direct instructional costs issues. Table 9 (p. 68) illustrates for all years and all admission levels the net revenues and the percentage of total incomes which remain following the deduction of both the most and least costly faculty salary alternatives. Again, the most costly faculty salary is the product of meeting the instructional (contact hour) need by hiring only F.T. associate faculty members. Conversely, the least costly salary alternative results from the use of combined F.T., P.T. and lecturers to meet that same instructional need. Now, for the system's current state within projected years and given the choice of the more costly faculty alternative, (this process obviously reduces the generated income by the greatest amount and results in the least remaining net revenue) the support or administrative costs would have to consume, in any

year, upwards of 60% of the generated income in order to place the system in the "red" financially. The 60% support cost illustration represents 1980. This academic year demonstrated the least net revenue following the deduction of the most costly faculty salaries, or stated another way, this was the year in which the instructional credit need was the largest of all projected years studied, and as such, even the most costly faculty salary alternative did not consume the major portion of funds generated by the system. Given the trend toward decreased university enrollments in Quebec, and the interest (as obviated by the number of qualified applicants) in this instructional program, can this system then support an expanded enrollment state? This brings us to the second portion of the financial query.

As previously noted, (p. 61) an estimated annual admission level of 84 students would have to be reached in order that the systems physical (space) capacity was reached. Therefore, in terms of physical limitations, the system can accommodate the increased enrollment state as projected (P.D. Mitchell, 1977). In financial terms, given the increased instructional demand, what faculty costs would the system be required to support??? For an expanded system's state for years 1978 through 1982, Table 8 (p. 56) illustrates the salary costs and the remaining net revenues for the four faculty alter-

natives. Salary costs are always calculated from an identified instructional need and total salary data are based on student enrollment figure estimates taken from the current and projected to an expanded system state. As occurred in the current systems state (again notwithstanding 'support costs')

- it would appear financially feasible to expand the system's current admission level to include 20 to 25 additional students annually.

As demonstrated within Table 8, for an expanded system state, the most costly faculty alternative (#2) appears in academic year 1982. Here an estimated $205,700 of the projected potential income would be required and consumed by the most costly staffing option. Two points are of note here:

From Table 8 for academic year 1982, and faculty alternative #2, the amount of $205,700 is equal to approximately 1/3 of the generated funds for that year and clearly does not represent the major (>50%) portion or percentage of available funds.

Secondly it is noted that, the above salary requirement for year 1982 is a mere $5,000 more than the salaried amount earmarked or projected for faculty salaries for faculty salaries for an admission level of 30 students in the year 1977!

Both in consideration of these points and in light of the increased net revenues remaining for, or available to, the total (university) system (Tables 8 and 9), it is contended that an expanded system's state is not only a financially feasible proposition, but also financially advantageous one for the university as a whole. Therefore, requests for faculty to support the identified instructional demands of the expanded system state should be granted.

Given the acceptance of the proposed expansion, and in an effort to inject a large measure of objectivity in the selection of faculty/salary options, only the most costly salary options were selected (Table 9, p. 68), for the purposes of comparing net revenue possibilities between and amongst current and expanded system's states. Referencing Table 8, (p. 56), and proceeding in a chronological fashion, projected academic year 1978 demonstrated no additional faculty requirement costs between system's states. This resulted in a between system state net revenue difference of $180,000 (rounded). Throughout the entire table the expanded system's state consistently demonstrates a proportionately larger annual net revenues than the current system's state. The zero difference in salaries for 1978 is directly attributable to the influx of registered, but as yet 'inactive' research (thesis and internship) students.

This zero difference phenomenon corrects as we proceed through to year 1982, wherein the largest number of thesis students was expected to occur. As a direct consequence of this thesis backlog the largest difference in credit needs and therefore faculty salaries also results. Even as the most costly year, in terms of required faculty salaries, 1982 is estimated to realize a difference in net revenues of $180,020 for the additional faculty cost of $75,000 for that year. As the lease costly year, 1979 shows a difference in net revenues of $179,690 for an additional faculty salary expenditure of $10,000. Can the system afford to lose these 'differences' in potential net revenues by not expanding the current admission level?

In an effort to recapitulate, it has been established that the system in its current and expanded states does generate sufficient income to support the instructional credit need generated by either annual student enrollment. In addition it has also been determined that an expanded enrollment would not threaten either the physical limits and space available to the current systems state.

At this point, in the discussion it is time to consider the remaining operational concern. This concern, which as before results in a four pronged issue, deals

with the selection of the most appropriate faculty alternative, for both systems states (over projected years) in consideration of the individual instructional and financial requirements of both systems states. In that the financial hurdle has been cleared, the following discussion on faculty alternative(s) is based on the assumption ~~that~~ if a faculty requirement has been both identified and financially supported that the systems administrators would meet that need through hiring, at the least, the appropriate number, if not also the appropriate faculty type(s).

Issues of the order of instructional cost, faculty course curriculum development and program continuity, illuminate the rather repetitive "quantity versus quality" situations that often develop between the administration and instructional faculty. In the case of the system under study, and in the instance that the university/administration did opt for the least costly faculty alternative for either system state, this decision would consistently result in the lecturer faculty alternative. In addition to the least costly salary factor there are other tangible benefits linked with this staffing alternative. The lecturer, while on the university payroll, does not incur expenses in the form of office space, sick leave, or pension plan benefits, etc., in the same manner in which the regular (F.T. and

P.T.) faculty would require. While the faculty option of lecturer is definitely the least costly in terms of filling the credit need, it cannot offer the specified flexibility to the system in terms of research supervision and mobility among courses that both the regular (F.T. and P.T.) faculty types can provide. A specific example of this point will follow shortly.

In the interests of planning and development of curriculum, the organizing of assignment of faculty to course offerings, faculty research, and publishing activities, it is strongly recommended that the system should lean toward hiring approval for either regular (F.T. and P.T.) faculty or a mix of regular and lecturer staff with primary emphasis on the former faculty type. In addition to the 'flexibility' feature previously mentioned, regular faculty do generate grant revenues (G.R.'s) which, while these are not huge sums, do serve a very real system 'need'. Grant revenues provide, guaranteed capital assets without which there would be scant if any funds for laboratory/research experience and equipment for the system's students. However, to return to the specific issue under consideration, which faculty alternative would most aptly meet the annual credit underages/requirements identified for both current and expanded system states across projected years 1978 to 1982?

In generating the data which appears in Table 10 (Faculty Salaries by Annual Credit Requirements) a number of faculty allocation faculty averaging and credit averageing methods were tested for 'nearness of fit'. It is of note here, that the single element which necessitated the data (Table 10, p. 79) requirement for the systems expanded state was the annual faculty (FTE) requirement (deficit) on instruction and supervision of research credits. (disciplines 11 and 12) Again, it is noted that this F.T.E. only requirement on disciplines 11 and 12 stem directly from the systems restraints (p. 21). Therefore, for the systems credit needs current state over the five projected academic years could be aptly matched by the addition of two F.T.E. faculty within any of the four faculty alternatives defined. Instructional requirements within any specified year that are not equal to 48 credits exactly, (as these 'spot requirements' vary by ± 6 credits) could be covered by instructional assistance by lecturers. Then to move from the current to the expanded enrollment situation, the initial increase in faculty salary costs for projected years occurs, not surprisingly, in academic year 1978. This salary increase remains relatively constant within each faculty alternative for the following four years, 1979 to 1982 inclusive. The exact dollar amount of this salary increase is, of course,

TABLE 10 - PROJECTED FACULTY SALARIES FOR SPECIFIC ANNUAL CREDIT REQUIREMENTS

YEAR	Annual Level	Need to (minimum)			Annual Faculty Salaries (1000) // Accumulative Faculty Sal.							
					FTE Required for Specified Credit Need							
1978	30	0/54			18	26.10	2.25	45.00	1+10	34.50	2.13+1	41.50
	60	0/54			18	26.10	2.25	45.00	1+10	34.50	2.13+1	41.50
1979	30	0/45			15	21.75	1.88	37.50	1+7	30.15	1.75+1	36.50
	60	0/52			17.3	25.13	2.16	43.30	1+9.3	33.53	2.04+1	40.28
1980	30	0/51			17	24.60	2.13	42.50	1+9	33.05	2.0+1	41.50
	60	15/60			Ø	—	3.75+3.5	65.00	1+17	41.65	2.99+1	63.95
1981	30	0/51			17	24.60	2.13	42.50	1+9	33.05	2.0+1	41.50
	60	29/59			Ø	—	1.2+2.4	93.00	1.2+19.6	52.42	1.20+19.6	52.42
1982	30	0/42			14	20.30	1.75	35.00	1+6	27.70	1.62+1	32.25
	60	69/51			Ø	—	15.00	100.00	2.33+17	50.15	2.33+17	50.15
$\overline{X}$ Credit Hours	30	0/48.6	FTE Formula 2.25									
$\overline{X}$	60	226/55.2	9.5 hr 2.30	1.00 FTE 2.301 3.50	10+1 2.40							

subject to the specific alternative chosen to equal in credits the equivalent of two F.T.E. faculty members. In that there are no research demands which specifically require regular faculty, the 'any' credit category for the four faculty alternatives would adequately meet the averaged credit requirements identified. If one faculty combination must be selected from amongst the four alternatives specified, it is assumed herein that the time required to procure 16 to 18 course lecturers (or the equivalent in lecturer credits) would preclude this faculty alternative. Other than justifying the most costly (two F.T.E.) faculty alternative, the additional trade-off to the system itself is the difference in potential faculty grant revenues of, at the least, $6,000 annually. Therefore, with the previously noted overage/underage differences within each year of the averaged five year/48 credit requirement, the closest match would appear to be faculty alternative number three. This alternative is a mix of minimum F.T. and maximum lecturer faculty types and represents both the mean ($\bar{X}$) cost of both the most and least expensive faculty alternatives and, as well, being the second least costly option. Therefore, given the additional credit flexibility of F.T. faculty element requirements, this staffing alternative number three is submitted as the most viable faculty option available for the current

system needs.

The expanded admission level, as noted above, required at the outset some trial-and-error testing (Table 10, p. 79) in order to match credit needs with the faculty alternatives that could be considered as both 'reasonable' and financially justifiable faculty choices. The methods that were tested and the resultant data are illustrated in Table 11 (p. 88). The terms "absolute" and "any" credit need are repeated here in order to differentiate between faculty types of "regular only" (absolute) and "any of the four possible faculty alternatives" (any), respectively. As these terms are constantly employed in the following discussion they required redefinition. Given the detail required in the trail-and-error methods tested and in attempting to determine a match for faculty number, type, and cost on the expanded system's state, what will follow is a very general assessment of the entire process and a general recommendation statement of faculty instructional credit requirements. In consideration of the current faculty employed within the instructional system, and working from data in Table 10, it is obvious that the least costly and perhaps the most expedient faculty alternative for years 1978 and 1979 and an expanded state would again be the lecturers alternative. This resultant choice is due solely to the "any" credit need

of 54 credits and 52 credits for the academic years 1978 and 1979. And as with the projected current system's state, this alternative results in, at most, 18 course lecturers which again leads to the management of accumulated and cumbersome numbers of staff. To sidestep the selection of this lecturer faculty alternative is not to discredit the quality of the instruction provided. However, on the basis of program (system) management and the assurance of both curriculum development and continuity of program elements, these accumulated numbers of staff are a serious consideration. Therefore, while alternative three represents, for years 1978 and 1979, what initially appears to be an unnecessary salary expenditure, this alternative does keep lecturer and regular staff ratio in more manageable numbers. On the basis of long-range hiring benefits, the faculty "accumulated" within alternative three also prepares the system for either of two projected instructional credit eventualities for years 1980 to 1982, inclusive. One projection deals with the expanded system's research credit requirements which increase proportionately from the student numbers indicated in the 30 students/annum admission level to a 15, 29, and 69 student generated research credit requirement for 1980 to 1982, inclusive. Also, in the event that there is a significant (ie. requiring more than the addition of one FTE faculty)

increase/ shift in student generated research requirements from 1980 to 1982 inclusive, this credit need could then be covered by the staff number and type availability of faculty alternative three. In that the latter situation is the more probable eventuality for the expanded system state, and in consideration of the above issues, faculty alternative number three is recommended herein and approved therefore 'in principle' only. The recommendations that stem directly from the 'in principle' approval of faculty alternative three are as follows:

. Hold to the recommended 6 to 8 lecturer/F.T.E. ratio until, on the basis of 'absolute' credit need (research credits) or faculty type requirements it becomes advantageous to the system to add faculty.

. The additional faculty type recommended is a F.T.E., (or a percentage thereof), thereby deleting the required number of lecturers/course.

. This ratio, 1 F.T.E./6 to 8 lecturers or satellite arrangement of faculty would appear (Table 11) to be the most advantageous option within faculty alternative three in terms of both effective use of system funds and the flexibility in annual credit assignment for faculty members.

These latter two items are especially vital in the last three years of the system's credit requirements, as the lead time necessary for faculty hiring activities as well as the availability and use of funds critical to the system's financial solvency and survival.

V. Conclusions

A. Recommendations

Based on the data employed within the confines of research model, it appears that the proposal to expand annual admissions by some twenty to twenty-five students is both a physically viable and financially justifiable proposition. It is noted here that before the completion of this research project, that the system studied underwent some very major physical changes. Changes in the form of additional numbers of faculty and new locale most certainly affected the systems functioning in terms of potential (ie. maximum enrollment possibilities) outputs (graduates) and the funds required to effect those outputs.

Wherein the numbers, time and place have shifted it is herein submitted that the expansion process and as such recommended pre-expansion and expansion activities will remain the same. Therefore the following recommendations are offered as pre-expansion activities and as such address the system's need for both a more accurate and identifiable annual instructional credit requirement.

I. To establish and maintain through the employment of a tailored version of this research model, an on-going information system which will identify (at minimum) one

semester in advance the system's annual instructional and thus budgetary requirements.

Operative detail: For purposes of flexibility of both data and the analysis, it is recommended that the scope of the model used not be limited to a singular measure of the instructional (faculty) requirement. Specifically, that as in the research model developed, the three data fields of:

- faculty credits
- faculty contact hours, and
- the above combined credit/contact hour ratios

be conjointly employed in the determination of the system's annual instructional requirements. The rather obvious short term advantage of this information to the system is the identification, on the basis of course pre-registration data, the system's credit requirements in advance of both the commencement of the fall semester and the hiring deadline. Additionally, the application of this (or a similar) model provides management with various levels of relevent data which would be vital to activities of allocating instructional faculty and assessment the systems course/annual budgetary requirements.

The long term advantage of creating an information system which would evolve and grow with the system itself would be that, over a period of two or three

years, there would be a substantial amount of relevant and supportive documentation on the effects of various course/annual enrollments on the faculty availability as well as cost requirements for the total instructional system and the system's program elements. The above information would then be available and valuable to management in terms of both planning and implementing quantitative (expansion) and qualitative (curricular) changes.

Aside from the considerations of accuracy in model design, the modeling of a system's function to obtain reliable and relevant data output depends almost entirely upon the accuracy of, and representativeness of, the data input. Simply stated, but not so simply completed. Therefore, in an effort to:

- accommodate the instructional system's established practice of a student selected course registration
- introduce what is submitted as a 'required element of control'
- improve the level of information available on the physical and financial system requirements, the four items that follow are noted as requiring careful consideration well in advance of any expansion activities. The following three items are listed in a 'suggested' order of treatment.

TABLE II - FACULTY ALTERNATIVES (CONTINUING CHEMISTRY)

VS FACULTY TIME AND SALARY FOR SIXTY STUDENTS

YEAR	CREDIT HRS	CREDIT DIFFICULTY	STAFF F.T.E.	LECTURES	LAB HRS/MOS	LAB COST (@ $800) YEAR/MONTH	COMMITMENT F.T.E.	ANNUAL COST → TEACHER F.T.E.	CURRICULUM TOUR ALTERNATIVE LECTURES	CURRICULUM TOUR ALTERNATIVE COSTS HRS/MOS	FACULTY SALARY STAFF HRS/MIN	(100 K)
1978	10/54	0	0.25 $45.00	18 $26.10	1410 $34.50	0.125 FT $43.95	10/0.25	$145.00	$126.10	$134.50	$143.95	
1979	0/52	0	0.25 $45.00	18 $26.10	1410 $34.50	0.125 FT $43.95	0/0.25	$145.00	$126.10	$134.50	$143.95	
1980	15/60	0 6	.67 $13.40 2.50 $50.00	N/A 20.00 $29.00	N/A N/A	N/A N/A	.67/0.50	$102.00 3.40 20.00 $165.40	$100.00 13.40 20.00 $161.40	NA	NA	
1981	104/54	0 0	1.20 $24.00 0.45 $50.00	N/A 20.00 29.00	N/A	N/A	1.20/0.50	$100.00 24.00 50.00 $174.00	$100.00 24.00 50.00 $175.00	NA	NA	
1982	69/51	0 0	1.66 $33.20 0.50	N/A 17.00 $24.65	N/A 1410 $34.50	N/A 0.1061 $43.95	2.86/0.50	$100.00 33.20 $133.20	$100.00 33.20 $157.20	$100.00 33.20 $167.80	$100.00 33.20 $177.15	

a) To establish the development and utilization of a 'unit cost measure' that is viable and relevant to determining the annual funding required to support the instructional system activities and is, in addition, functional in terms of the established budgetary measures used and policies employed by the system's presiding department...

Operative Detail: The suggested 'unit cost measure' for the system studies is that of cost/course offering. Cost/student and FTE's in faculty costs are, in the considered opinion of this researcher, considerably less malleable within the larger system's (university/department) functioning and policy considerations.

b) To establish both a functional and defensible minimum and maximum course enrollment figure(s). In light of the recent relocation of instructional facilities, the 'maximums' previously employed within this paper would have to be adjusted. In that in the financial justification for the system's expansion "hinged on" the question "can the system independently support its own instructional resource cost?", it would then follow that the system's program elements (courses) should also be considered or treated in terms of cost effective system units.

Operative Detail: From Table 12 (p. 91) and for disciplines 1 to 10 only, it will be noted that on the basis of faculty salary, F.T.E. student government grants and student tuition/credits employed, a minimum student enrollment of 7 students/course is required in order to recover what would be a mean ($\bar{x}$) faculty salary of $2,500/3 credit course. Differences in course costs are not that great amongst courses within disciplines one to ten. In disciplines eleven and twelve (thesis and internship respectively), there are vast course cost differences. For example in discipline twelve, a 2:1 student to faculty ratio is required per internship project (0.5 credits) in order for the course to retain and enjoy the position of a self or an auto financed course. In the interest of both cost effective system elements and the effective and judicious deployment of faculty credit resources, it is recommended on both a qualitative and quantitative basis that a biannual offering of the program's full slate of courses be seriously considered. The identification and recording/updating of the instructional course requirements of the system's student populace for both in-system and newly enrolled students is essential for purposes of:

- establishing both core course and remaining elective credits required to complete the degree offered

TABLE V COURSE COSTS IN TERMS OF FACULTY SALARIES AND STUDENT ENROLLMENTS

Students Enrolled	Tuition Discipline 10	Govt Grant 2	Total
1	$30.00	$380.00	$410.00
2	$60.00	$860.00	$920.00
4	$120.00	$1520.00	$1640.00
6	$180.00	$2280.00	$2460.00
8	$240.00	$3040.00	$3280.00
10	$300.00	$3800.00	$4100.00
15	$450.00	$5700.00	$6150.00
20	$600.00	$7600.00	$8200.00
25	$750.00	$9500.00	$10,250.00
30	$900.00	$11,400.00	$12,300.00

Students Enrolled	Tuition Discipline 11	Govt Grant 2	Total
1	$360.00	$4,560.00	$4920.00
2	$720.00	$9,120.00	$9840.00
3	$1080.00	$13,680.00	$14,760.00
4	$1440.00	$18,240.00	$19,680.00
5	$1800.00	$22,800.00	$24,600.00
10	$3600.00	$45,600.00	$49,200.00
15	$5400.00	$68,400.00	$73,800.00
20	$7200.00	$91,200.00	$98,400.00
25	$9000.00	$114,000.00	$123,000.00
30	$10,800.00	$136,800.00	$147,600.00

Students Enrolled	Tuition Discipline 12	Govt Grant	Total
1	$150.00	$1900.00	$2050.00
2	$300.00	$3800.00	$4100.00
3	$450.00	$5700.00	$6150.00
4	$600.00	$7600.00	$8200.00
5	$750.00	$9500.00	$10,250.00
6	$900.00	$11,400.00	$12,300.00
7	$1050.00	$13,300.00	$14,350.00
8	$1200.00	$15,200.00	$16,400.00
9	$1350.00	$17,100.00	$18,450.00
10	$1500.00	$19,000.00	$20,500.00
15	$2250.00	$28,500.00	$30,750.00
20	$3000.00	$38,000.00	$41,000.00
30	[illegible]	[illegible]	[illegible]

. planning both the annual semester course offerings and the number of sections/course that may be required

. counseling the student in choosing course studies and course availability (ie. course electives to be offered in which year/semester) and,

. assessing the student 'flow' through the system and estimating or projecting course enrollment figures, as they become available.

c) To establish and assess the relative value to both the student and the operational aspect of the system of offering a full slate of courses on only a biannual basis.

Operative Detail: Tangentially is suggested that, in the interests of both the system's financial status and the analysis and identification of a pattern of student flow through the system, that core courses be absolute prerequisite to all other electives. Additionally, it is suggested that without exception, all research courses be registered for in the first or entrance year of study. Some immediate advantages of the above suggestions are that contracts for research course faculty could then be established early on in the student's chosen course of study. The individual student would still have the flexibility of course selection and, as well, the assurance that the specific electives he/she requires

would be available when they were ready to assume those particular course choices. Other levels of information made available by the implementation of these 'control' measures are seen as:

- an ability to anticipate the need for additional course sections in advance of the instructional need and thereby effectively allocate the current and additional faculty required.

The offering of a full slate of courses on a biannual basis has a decided advantage on yet another plane which is vital to the system's function, that being the financially astute employment of available and budgeted funds. Under enrollment (given the previous establishment of minimum enrollment figures/course) is an unnecessary consumption of faculty credit availability and effective faculty allocation, as well as having the effect of increasing faculty salary costs. Biannual offering of some elective courses would, in fact, 'free-up' both three faculty credits/course and the faculty course cost of $2,500 for use in other courses requiring additional sections. The recommendations set forth in the preceding sections may appear to be heading toward over-management in the sense of regime requirements or regimentation. However, as was indicated in the opening remarks, all items offered for consideration were done so in the interest of creating both a functional and

applicable information system which, through use of a systems approach, would facilitate the system's curricular evolvement and financial development in a positive direction.

It is submitted then that the model employed within this initial research has established on a quantitative basis the applicability of modeling techniques for instructional programs within systems of higher education. The future measure of a successfully applied model for this educational system depends, to a large extent, on either the 'tailoring' of this research model or the development of a new model which would include both the newly acquired faculty and the classroom space brought about by the system's recent change in locale.

In conclusion, this researcher poses a question. Given the potential value of both the qualitative and quantitative levels of information available to either the system studied or to any system of higher education, as well as the opportunity to understand the system more clearly, can management then afford not to pursue or explore the realm of modeling techniques or models available to educational systems under the aegis of Systems Analysis?

B. Summation

The following overview is submitted in response to both the 'technical conditions' specified within the

formal problem statement, and this researcher's overall contention that solutions to problems arising in the planning and utilization of instructional resources are available within the modeling technique of systems analysis.

i) The mechanized aspect of the research model encompasses an eight year time span -- three historical and five projected years, respectively. In that time frame there were two assumptions made on data employed within the construct and design of this system's model. First, that one F.T.E. faculty member should be equated with an instructional contact hour output of 1040 hours per academic year. Secondly, that the course enrollments for projected years could be based directly on data employed for the system's current state given the enrollment trend demonstrated therein and simply increased proportionately to represent the system's expanded state. Therefore given these two working assumptions, the mechanized model demonstrated for the system's current, expanded and maximum enrollment states, the occurrence of both contact hour overages/underages by discipline and semester within each year and the consistent occurrence of contact hour underages on an annual basis. The significance of this data to both the system and this researcher was three-fold.

First, it was clearly evident from the historical contact hour underages that additional faculty are required for the system's current instructional demands. By extension, for an expanded system's state, additional faculty would also be required. Laterally, it was determined that, from annual credit contact hour ratios established for disciplines one to ten inclusive, a comparative credit value discrepancy existed for research disciplines eleven and twelve (thesis and internship). Therefore, in that the system administrators assign a faculty member's workload on the basis of credits, and in order to fairly (equably) represent the faculty's contact hour output across all instructional disciplines, the two research courses were revalued in a faculty assigned annual credit value of 3.0 per thesis and 0.5 per internship project.

Secondly, the annual contact hour requirements generated for a maximum course enrollment state indicated that in terms of physical limits (space) an expanded system's state could be accommodated within the current system's instructional facilities. In addition, the physical limits of the system were determined through a reconversion of the enrollments to student ratio, and estimated to be capable of accommodating 84 annual student admissions.

Lastly, through an assessment of the credit/contact

hour values, and the underages and ratios specifically established by the mechanized model, it was evident that a means by which to identify both the number and type of faculty required and the relative cost of those faculty was clearly indicated. The identification of this data requirement lead to the interface and design and development of the manual portion of the research model.

ii) The instructional design and the data employed within the manual model required the establishment of two major assumptions. First, that one F.T.E. faculty member was equal to the maximum assignable institutional credit value of .24 and that faculty could be categorized by function and type into the four faculty alternatives of F.T., lecture, minimum F.T./maximum lecture, and maximum F.T./minimum lecture.

The second assumption dealt with the financial value of, and the "a priori" assignment of the research disciplines to annual 'regular' faculty availability. All newly admitted students were required to register for thesis on entrance to the instructional system. This 'a priori' assignment of annual research credit requirements to faculty credit availability assured that the student flow through the system (immediate or potential graduates) would not be impeded due to a lack of specific type of faculty (F.T. or P.T.) availability. Given these established/working assumptions, the function of

the manual model was to:

. assign by type the annual credit availability of currently employed faculty,

. identify both the amount and type of annual credit deficit,

. generate, through the four faculty alternatives defined, the number, type and salary cost of the faculty required to meet annual credit deficits for both system's states, and

. establish, through an annual accounting of income generated versus faculty salary costs, a monetary base for both a comparative cost of the two system's states and the relative financial feasibility of the proposed expanded system's state.

iii) On a totally theoretical plane, the relevance of the manual model's resultant data was input not as significant, to this researcher, as the modeling concept itself. The model demonstrated that a means was available by which both system's states credit requirements and the faculty salary cost of meeting those requirements could, in fact, be identified. On the proviso that accurate and substantiated course enrollment data could be procured on an on-going basis, thereby establishing rather than estimating the system's annual credit requirements, what remains is the relatively simple task of identifying credit deficits and costing

faculty alternatives to meet the credit need. Given this data proviso, the value of the modeling concept, on an operative basis to the system studied can be succinctly described in a word.....TIME. Specifically, lead time in order to:

- prepare budget proposals and faculty requests for the next academic year,
- consider on both a qualitative and quantitative basis the faculty mix (by type) which would most adequately meet the needs of both the instructional system and the individual,
- prepare contingency plans for both budget and faculty requests which may be required for budgetary restraints, and
- interview and hire in accord with approved faculty requests.

These few examples of the management tasks which are requisite to the ongoing functions of the instructional system require this lead time. The time afforded the system through relevant and substantiated data on the system's annual credit requirements and the level of information available is crucial to planning activities which affect the system's functioning in either an expanded or an ongoing state. The building of models to represent a system's structure and functions, or modeling techniques, is essentially the construction

of an information system for a system studied. The value of the manual portion of the research model in operative terms lies in its ability to facilitate the identification and allocation of the appropriate number and type of faculty required to meet a given annual credit need - thereby converting a credit need to a dollar value and/or the cost of meeting that credit need. On a financial basis, the manual model provided a means by which to evaluate, on a comparative basis, the relative costs of four faculty alternatives within and between academic years, for either the current or expanded system's states, respectively. The relative value of this level of information is that it provides the system with substantiated or documented cost data on which to base budget and faculty requests. In the case of the potentially expanded system's state, information of this order allows management to intelligently decide and affect aims which would promote the system's positive evolution and, as such, improve the systems output..... the graduate.

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APPENDIX A

A1

30 ADMIT

INPUT DATA ON COURSES OFFERED

COURSE NUMBER	DISCIPLINE	COURSE CREDIT	CLASS SIZE	COURSE-ACTIVITIES--CONTACT-HOURS LECTURE	LAB	IND	EXAM
602	1	3	15	26.00	0.00	2.00	2.00
605	1	3	25	26.00	0.00	3.00	1.00
606	1	3	25	26.00	0.00	2.00	2.00
607	1	3	15	26.00	0.00	10.00	0.00
608	1	3	15	26.00	0.00	10.00	0.00
611	2	3	25	26.00	0.00	1.00	0.00
613	2	3	25	26.00	0.00	3.00	2.00
614	2	3	25	26.00	0.00	2.00	0.00
615	2	3	25	26.00	0.00	2.00	0.00
618	2	3	25	26.00	0.00	2.00	2.00
622	3	3	25	26.00	0.00	2.00	2.00
623	3	3	15	3.00	23.00	2.00	1.00
624	3	3	50	26.00	0.00	2.00	2.00
631	4	3	20	26.00	0.00	2.00	2.00
632	4	3	20	26.00	0.00	2.00	2.00
633	4	3	15	26.00	0.00	2.00	2.00
634	4	3	16	12.00	0.00	8.00	1.00
640	5	3	50	26.00	26.00	4.00	0.00
641	5	3	25	26.00	26.00	2.00	0.00
642	5	3	25	26.00	26.00	2.00	0.00
643	5	3	25	26.00	0.00	1.00	2.00
651	6	3	25	26.00	0.00	2.00	2.00
652	6	3	25	26.00	0.00	2.00	2.00
653	6	3	20	26.00	0.00	6.00	10.00
654	6	3	25	26.00	0.00	2.00	1.00
655	6	3	25	26.00	0.00	1.00	2.00
661	7	3	20	26.00	0.00	2.00	1.00
662	7	3	25	20.00	0.00	2.00	1.00
681	8	3	13	26.00	0.00	4.00	1.00
682	8	3	13	14.00	90.00	6.00	1.00
683	8	3	13	14.00	90.00	9.00	2.00
684	8	3	13	26.00	0.00	4.00	1.00
685	8	3	10	26.00	0.00	4.00	1.00
686	8	3	20	6.00	20.00	4.00	1.00
691	9	3	4	0.00	0.00	50.00	0.00
692	9	3	4	0.00	0.00	50.00	0.00
693	9	3	20	26.00	0.00	2.00	0.00
694	9	3	10	0.00	26.00	2.00	2.00
701	10	3	25	26.00	0.00	2.00	2.00
702	10	3	30	26.00	0.00	1.00	2.00
690	11	36	6	0.00	0.00	90.00	40.00
699	12	15	6	0.00	0.00	18.00	4.00

INPUT DATA ON COURSES OFFERED

MAX ENROLLMENT

COURSE NUMBER	DISCI PLINE	COURSE CREDIT	CLASS SIZE	COURSE-ACTIVITIES--CONTACT-HOURS LECTURE	LAB	IND	EXAM
602	1	3	15	26.00	0.00	2.00	2.00
605	1	3	25	26.00	0.00	3.00	1.00
606	1	3	25	26.00	0.00	2.00	2.00
607	1	3	15	26.00	0.00	10.00	0.00
608	1	3	15	26.00	0.00	10.00	0.00
611	2	3	25	26.00	0.00	1.00	0.00
613	2	3	25	26.00	0.00	3.00	2.00
614	2	3	25	26.00	0.00	2.00	0.00
615	2	3	25	26.00	0.00	2.00	0.00
618	2	3	25	26.00	0.00	2.00	2.00
622	3	3	25	26.00	0.00	2.00	2.00
623	3	3	15	3.00	23.00	2.00	1.00
624	3	3	50	26.00	0.00	2.00	2.00
631	4	3	20	26.00	0.00	2.00	2.00
632	4	3	20	26.00	0.00	2.00	2.00
633	4	3	15	26.00	0.00	2.00	2.00
634	4	3	16	12.00	0.00	8.00	1.00
640	5	3	50	26.00	26.00	4.00	0.00
641	5	3	25	26.00	26.00	2.00	0.00
642	5	3	25	26.00	26.00	2.00	0.00
643	5	3	25	26.00	0.00	1.00	2.00
651	6	3	25	26.00	0.00	2.00	2.00
652	6	3	25	26.00	0.00	2.00	2.00
653	6	3	20	26.00	0.00	6.00	10.00
654	6	3	25	26.00	0.00	2.00	1.00
655	6	3	25	26.00	0.00	1.00	2.00
661	7	3	20	26.00	0.00	2.00	1.00
662	7	3	25	20.00	0.00	2.00	1.00
681	8	3	13	26.00	0.00	4.00	1.00
682	8	3	13	14.00	90.00	6.00	1.00
683	8	3	13	14.00	90.00	9.00	2.00
684	8	3	13	26.00	0.00	4.00	1.00
685	8	3	10	26.00	0.00	4.00	1.00
686	8	3	20	6.00	20.00	4.00	1.00
691	9	3	4	0.00	0.00	50.00	0.00
692	9	3	4	0.00	0.00	50.00	0.00
693	9	3	20	26.00	0.00	2.00	0.00
694	9	3	10	0.00	26.00	2.00	2.00
701	10	3	25	26.00	0.00	2.00	2.00
702	10	3	30	26.00	0.00	1.00	2.00
690	11	36	6	0.00	0.00	90.00	40.00
699	12	15	6	0.00	0.00	18.00	4.00

690 - 6 Ss / faculty member T=30
699 - 6 Ss / faculty member T=30

INPUT DATA ON COURSES OFFERED

60 ADMIT

A1

COURSE NUMBER	DISCI PLINE	COURSE CREDIT	CLASS SIZE	COURSE-ACTIVITIES--CONTACT-HOURS LECTURE	LAB	IND	EXAM
602	1	3	15	26.00	0.00	2.00	2.00
605	1	3	25	26.00	0.00	3.00	1.00
606	1	3	25	26.00	0.00	2.00	2.00
607	1	3	15	26.00	0.00	10.00	0.00
608	1	3	15	26.00	0.00	10.00	0.00
611	2	3	25	26.00	0.00	1.00	0.00
613	2	3	25	26.00	0.00	3.00	2.00
614	2	3	25	26.00	0.00	2.00	0.00
615	2	3	25	26.00	0.00	2.00	0.00
618	2	3	25	26.00	0.00	2.00	2.00
622	3	3	25	26.00	0.00	2.00	2.00
623	3	3	15	3.00	23.00	2.00	1.00
624	3	3	50	26.00	0.00	2.00	2.00
631	4	3	20	26.00	0.00	2.00	2.00
632	4	3	20	26.00	0.00	2.00	2.00
633	4	3	15	26.00	0.00	2.00	2.00
634	4	3	16	12.00	0.00	8.00	1.00
640	5	3	50	26.00	26.00	4.00	0.00
641	5	3	25	26.00	26.00	2.00	0.00
642	5	3	25	26.00	26.00	2.00	0.00
643	5	3	25	26.00	0.00	1.00	2.00
651	6	3	25	26.00	0.00	2.00	2.00
652	6	3	25	26.00	0.00	2.00	2.00
653	6	3	20	26.00	0.00	6.00	10.00
654	6	3	25	26.00	0.00	2.00	1.00
655	6	3	25	26.00	0.00	1.00	2.00
661	7	3	20	26.00	0.00	2.00	1.00
662	7	3	25	20.00	0.00	2.00	1.00
681	8	3	13	26.00	0.00	4.00	1.00
682	8	3	13	14.00	90.00	6.00	1.00
683	8	3	13	14.00	90.00	9.00	2.00
684	8	3	13	26.00	0.00	4.00	1.00
685	8	3	10	26.00	0.00	4.00	1.00
686	8	3	20	6.00	20.00	4.00	1.00
691	9	3	4	0.00	0.00	50.00	0.00
692	9	3	4	0.00	0.00	50.00	0.00
693	9	3	20	26.00	0.00	2.00	0.00
694	9	3	10	0.00	26.00	2.00	2.00
701	10	3	25	26.00	0.00	2.00	2.00
702	10	3	30	26.00	0.00	1.00	2.00
690	11	36	6	0.00	0.00	90.00	40.00
699	12	15	6	0.00	0.00	18.00	4.00

A2

30 STUDENTS

COURSE REQUIREMENT INPUT DATA

COURSE NUMBER	1975 F	1975 W	1976 F	1976 W	1977 F	1977 W	1978 F	1978 W	1979 F	1979 W	1980 F	1980 W	1981 F	1981 W	1982 F	1982 W
602	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
605	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
606	26	21	23	0	21	0	19	15	25	0	21	8	20	10	0	13
607	20	20	0	0	26	19	15	15	14	16	18	9	11	15	14	0
608	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
611	0	5	0	14	0	5	8	0	0	8	10	0	0	5	9	0
613	20	14	14	16	14	13	20	15	20	10	24	0	19	16	10	20
614	21	0	8	0	8	0	15	0	13	0	0	8	10	0	0	15
615	5	0	0	0	0	0	0	7	0	0	0	0	10	0	0	0
618	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
622	8	0	0	16	0	0	12	0	0	8	10	0	0	4	8	0
623	10	7	9	0	8	0	0	14	10	0	0	8	11	0	0	4
624	0	0	0	0	0	0	0	0	0	10	0	0	7	0	0	0
631	5	5	0	0	0	7	10	0	7	0	0	8	5	0	10	0
632	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
633	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
634	7	0	0	12	0	6	10	0	8	0	0	12	6	0	0	12
640	18	14	15	15	31	0	30	0	0	30	25	0	35	0	0	40
641	0	0	0	14	0	12	0	15	0	20	21	0	0	25	0	20
642	10	0	0	15	0	23	16	0	15	0	0	10	15	0	20	0
643	7	0	6	0	0	0	0	10	0	8	6	0	9	0	0	6
651	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
652	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
653	0	0	5	0	0	5	8	0	5	0	0	7	5	0	0	8
654	0	0	0	7	13	0	0	10	7	0	0	12	15	0	0	5
655	0	0	5	0	0	0	8	0	0	10	5	0	6	0	0	0
661	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
662	0	7	11	0	5	0	10	0	0	11	8	0	7	0	0	10
681	0	5	9	0	0	0	10	0	8	0	0	6	7	0	0	9
682	16	0	12	0	13	0	13	0	16	0	12	0	6	0	16	0
683	0	15	0	7	0	12	0	13	0	12	0	7	0	10	0	15
684	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
685	0	11	0	15	0	14	12	0	14	0	15	0	9	0	10	0
686	0	16	11	0	15	0	0	14	16	0	0	11	10	0	0	16
691	4	4	0	0	5	0	0	0	0	0	8	0	0	0	0	0
692	4	4	0	0	0	0	0	8	0	0	0	0	0	0	8	0
693	0	0	20	0	0	0	0	0	0	0	0	15	0	0	0	0
694	0	0	0	0	5	0	0	0	0	0	0	0	0	8	0	0
701	0	13	9	0	0	15	15	0	15	0	0	11	0	9	10	0
702	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0
690	11		11		22		20		20		20		20		20	
699	36		26		37		36		26		36		26		36	

(A2)

COURSE REQUIREMENT INPUT DATA

325 So places - 100 So MAXIMUM

COURSE NUMBER	1975 F	1975 W	1976 F	1976 W	1977 F	1977 W	1978 F	1978 W	1979 F	1979 W	1980 F	1980 W	1981 F	1981 W	1982 F	1982 W
602	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
605	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
606	25	25	25	0	25	0	25	25	25	0	25	25	25	25	0	25
607	15	15	0	0	15	15	15	15	15	15	15	15	15	15	15	0
608	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
611	0	25	0	25	0	25	25	0	0	25	25	0	0	25	25	0
613	25	25	25	25	25	25	25	25	25	25	25	0	25	25	25	25
614	25	0	25	0	25	0	25	0	25	0	0	25	25	0	0	25
615	25	0	0	0	0	0	0	25	0	0	0	0	25	0	0	0
618	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
622	25	0	0	25	0	0	25	0	0	25	25	0	0	25	25	0
623	15	15	15	0	15	0	0	15	15	0	0	15	15	0	0	15
624	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0
631	20	20	0	0	0	20	20	0	20	0	0	20	20	0	20	0
632	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
633	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
634	16	0	0	16	0	16	16	0	16	0	0	16	16	0	0	16
640	50	0	50	50	50	0	50	0	0	50	50	0	50	0	0	50
641	0	25	0	25	0	25	0	25	0	25	25	0	0	25	0	25
642	25	0	0	25	0	25	25	0	25	0	0	25	25	0	25	0
643	25	0	25	0	0	0	0	25	0	25	25	0	25	0	0	25
651	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
652	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
653	0	0	20	0	0	20	20	0	20	0	0	20	20	0	0	20
654	0	0	0	25	25	0	0	25	25	0	0	25	25	0	0	25
655	0	0	25	0	0	0	25	0	0	25	25	0	25	0	25	0
661	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
662	0	25	25	0	25	0	25	0	0	25	25	0	25	0	0	25
681	0	13	13	0	0	0	13	0	13	0	0	13	13	0	0	13
692	13	0	13	0	13	0	13	0	13	0	13	0	13	0	13	0
683	0	13	0	13	0	13	0	13	0	13	0	13	0	13	0	13
684	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
685	0	10	0	10	0	10	10	0	10	0	10	0	10	0	10	0
686	0	20	20	0	20	0	0	20	20	0	0	20	20	0	0	20
691	~~0~~	~~0~~	0	0	~~0~~	0	0	0	0	0	~~0~~	0	0	0	0	0
692	~~0~~	~~0~~	0	0	0	0	0	~~0~~	0	0	0	0	0	0	~~0~~	0
693	~~0~~	~~0~~	20	0	0	0	0	0	0	0	0	20	0	0	0	0
694	0	0	0	0	10	0	0	0	0	0	0	0	0	10	0	0
701	0	25	25	0	0	25	25	0	25	0	0	25	0	25	25	0
702	0	0	0	0	0	0	0	0	0	30	0	0	0	0	0	0
690	~~36~~	30	~~30~~	30	~~36~~	30	~~36~~	30	~~36~~	30	~~30~~	30	~~36~~	30	~~36~~	30
699	~~36~~	30	~~36~~	30	~~36~~	30	~~36~~	30	~~36~~	30	~~30~~	30	~~36~~	30	~~36~~	30
3 cr.	Hours 220	Sa 192.74	Hours 565	Sa 133.8	Hours 422	Sa 146.33	Hours 610	Sa 157.6	Hours 625	Sa 172.3	Hours 550	Sa 196.4	Hours 655	Sa 201.7	Hours 545	Sa 167.1
3 credits (average)	692	202.92	637	196	544	167.3	682	209.5	697	214.4	652	204	727	223	617	189.8
3 credits (@ 3 years)	676	208	621	191	528	162.4	666	204.7	651	200.3	636	195.6	711	218.7	601	184.9

FACULTY INPUT DATA

30 STUDENTS

A3

FACULTY CODE	FACULTY RANK	CRED HOUR	DSPLN # 1	FACT LOAD	DSPLN LOAD	DSPLN # 2	FACT LOAD	DSPLN LOAD	DSPLN # 3	FACT LOAD	DSPLN LOAD	MAX # THE	MAX # INT	MA TIME	SALARY	MEAN GRANT	INSTR HOURS	GRANT-REVENUES->75-82< 1975 1979	1976 1980	1977 1981	1978 1982
1	ASC	12	6	40%	40%	1	30%	60%	2	30%	25%	6	6	100%	25000	12740	690.0	1500	10000	30976	10000
												11	12					10000	10000	10000	10000
2	ASC	15	7	34%	100%	4	33%	80%	1	33%	40%	6	6	75%	25000	5133	780.0	3400	0	0	3400
				345			127.5			127.5								3400	3400	3400	3400
3	ASC	~~18~~ 12	3	50%	90%	6	~~25%~~	50%	5	25%	10%	6	6	100%	25000	5333	~~1040.0~~ 690	2000	2000	1500	2000
																		2000	2000	2000	2000
4	AST	18	5	55%	50%	2	35%	60%	9	10%	30%	6	6	100%	20000	1666	1040.0	0	0	10000	10000
																		10000	10000	10000	10000
5	AST	~~18~~ 12	5	230 34%	40%	2	230 33%	15%	9	230 33%	70%	6	6	100%	20000	4000	~~1040.0~~ 690	7000	10000	7000	10000
																		10000	10000	10000	10000
20	LEC	3	4	100%	20%	0	0%	0%	0	0%	0%	0	0	16%	1450	0	166.4	0	0	0	0
																		0	0	0	0
21	LEC	6	10	70%	100%	6	30%	10%	0	0%	0%	0	0	32%	2900	0	332.8	0	0	0	0
																		0	0	0	0
22	LEC	3	8	100%	40%	0	0%	0%	0	0%	0%	0	0	16%	1450	0	166.4	0	0	0	0
																		0	0	0	0
23	LEC	6	8	66%	20%	3	34%	10%	0	0%	0%	0	0	32%	2900	0	332.8	0	0	0	0
																		0	0	0	0
24	LEC	3	8	100%	40%	0	0%	0%	0	0%	0%	0	0	16%	1450	0	166.4	0	0	0	0
																		0	0	0	0
			1 prof.	accept	prof																

FACULTY INPUT DATA

(A3)

MAXIMUM

FACULTY CODE	RANK	CRED. HOUR	DSPLN # 1	FACT LOAD	DSPLN LOAD	DSPLN # 2	FACT LOAD	DSPLN LOAD	DSPLN # 3	FACT LOAD	DSPLN LOAD	MAX # THE	MAX # INT	MA TIME	SALARY	MEAN GRANT	INSTR HOURS	GRANT-REVENUES->75-82< 1975 1979	1976 1980	1977 1981	1978 1982
1	ASC.	12	6	40%	40%	1	30%	60%	2	30%	25%	6	6	100%	25000	12740	690.0	4500 10000	10000 10000	30976 10000	10000 10000
2	ASC	15	7	34%	100%	4	33%	80%	1	33%	40%	6	6	75%	25000	5133	780.0	3400 3400	0 3400	0 3400	3400 3400
3	ASC	~~18~~ 12	3	(345) 50%	90%	6	(1125) 25%	50%	5	(1125) 25%	10%	6	6	100%	25000	5333	~~1040.0~~ 690.0	2000 2000	2000 2000	1500 2000	2000 2000
4	AST	18	5	55%	50%	2	35%	60%	9	10%	30%	6	6	100%	20000	1666	1040.0	0 10000	0 10000	10000 10000	10000 10000
5	AST	~~11~~ 12	5	(230) 34%	40%	2	(230) 33%	15%	9	(230) 33%	70%	6	6	100%	20000	4000	~~1040.0~~ 690.0	7000 10000	10000 10000	7000 10000	10000 10000
20	LEC	3	4	100%	20%	0	0%	0%	0	0%	0%	0	0	16%	1450	0	166.4	0 0	0 0	0 0	0 0
21	LEC	6	10	70%	100%	6	30%	10%	0	0%	0%	0	0	32%	2900	0	332.8	0 0	0 0	0 0	0 0
22	LEC	3	8	100%	40%	0	0%	0%	0	0%	0%	0	0	16%	1450	0	166.4	0 0	0 0	0 0	0 0
23	LEC	6	8	66%	20%	3	34%	10%	0	0%	0%	0	0	32%	2900	0	332.8	0 0	0 0	0 0	0 0
24	LEC	3	8	100%	40%	0	0%	0%	0	0%	0%	0	0	16%	1450	0	166.4	0 0	0 0	0 0	0 0

A3

FACULTY INPUT DATA

60 STUDENTS

FACULTY CODE	RANK	CRED HOUR	DSPLN # 1	FACT LOAD	DSPLN LOAD	DSPLN # 2	FACT LOAD	DSPLN LOAD	DSPLN # 3	FACT LOAD	DSPLN LOAD	MAX # THE	MAX # INT	MA TIME	SALARY	MEAN GRANT	INSTR HOURS	GRANT-REVENUES->75-82< 1975 / 1979	1976 / 1980	1977 / 1981	1978 / 1982
1	ASC	12	6	40%	40%	1	30%	60%	2	30%	25%	6	6	100%	25000	12740	690.0	1500 / 10000	10000 / 10000	30976 / 10000	10000 / 10000
2	ASC	15	7	34%	100%	4	33%	80%	1	33%	40%	6	6	75%	25000	5133	780.0	3400 / 3400	0 / 3400	0 / 3400	3400 / 3400
3	ASC	18	3	50%	90%	6	25%	50%	5	25%	10%	6	6	100%	25000	5333	1040.0	2000 / 2000	2000 / 2000	1500 / 2000	2000 / 2000
4	AST	18	5	55%	50%	2	35%	60%	9	10%	30%	6	6	100%	20000	1665	1040.0	0 / 10000	0 / 10000	10000 / 10000	10000 / 10000
5	AST	18	5	34%	40%	2	33%	15%	9	33%	70%	6	6	100%	20000	4000	1040.0	7000 / 10000	10000 / 10000	7000 / 10000	10000 / 10000
20	LEC	3	4	100%	20%	0	0%	0%	0	0%	0%	0	0	16%	1450	0	166.4	0 / 0	0 / 0	0 / 0	0 / 0
21	LEC	6	10	70%	100%	6	30%	10%	0	0%	0%	0	0	32%	2900	0	332.8	0 / 0	0 / 0	0 / 0	0 / 0
22	LEC	3	8	100%	40%	0	0%	0%	0	0%	0%	0	0	16%	1450	0	166.4	0 / 0	0 / 0	0 / 0	0 / 0
23	LEC	6	8	66%	20%	3	34%	10%	0	0%	0%	0	0	32%	2900	0	332.8	0 / 0	0 / 0	0 / 0	0 / 0
24	LEC	3	8	100%	40%	0	0%	0%	0	0%	0%	0	0	16%	1450	0	166.4	0 / 0	0 / 0	0 / 0	0 / 0

SOURCE CODE

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00010C
00012C      PROGRAM ........................... LYNN
00014C      PROGRAMMER ......................... ARTHUR PATRICK ROSE
00016C      LANGUAGE ........................... CDC TIMESHARING FORTRAN
00018C      (C) 1978 ........................... CONCORDIA UNIVERSITY
00020C
00022C
00024C
00030C            >>>>> P R O G R A M   V A R I B L E S <<<<<
00032C
00034C      ACHRS(D) ........... FACULTY TIME AVAILABLE FOR DISCIPLINE
00036C R    CCHR(Y) ............ CREDIT CONTACT HOUR RATIO FOR YEAR
00038C      CD(F) .............. FACULTY CODE NUMBER
00040C      CLASIZ(D,N) ........ MAXIMUM CLASS SIZE
00042C      CN ................. COURSE NUMBER INPUT VARIABLE
00044C      CONHRS(D,N,S) .... CONTACT HOURS REQUIRED BY COURSE FOR SEMESTER
00046C R    CONTAC(D,N,1) .... CONTACT HOURS REQUIRED FOR LECTURE FOR COURSE
00048C R    CONTAC(D,N,2) .... CONTACT HOURS REQUIRED FOR LAB FOR COURSE
00050C R    CONTAC(D,N,3) .... CONTACT HOURS REQUIRED FOR INDIVIDUALS FOR C
00052C R    CONTAC(D,N,4) .... CONTACT HOURS REQUIRED FOR EXAM FOR COURSE
00054C      COURSE(D,N) ........ COURSE NUMBER
00056C      CR ................. CREDIT INPUT VARIABLE
00058C      CREDIT(D,N) ........ CREDIT VALUE OF COURSE
00060C      CUH(1) ............ TOTAL INSTRUCTIONAL CONTACT HOURS REQUIRED
00062C      CUH(2) ............ TOTAL CONTACT HOURS REQUIRED
00064C      D ................. DISCIPLINE LOOP VARIABLE
00066C      DIFF ............... DIFFERENCE OF REQUIRED & AVAILABLE CONTACT HRS
00068C      DSPLN(F,3) ......... FACULTY MEMBER'S 3 DISCIPLINES OF SPECIALITY
00070C      DSTOT(D,S) ......... REQ CONTACT HRS BY DISCIPLINE BY SEMESTER
00072C      DT ................. # OF THESES TO BE RANDOMLY ASSIGNED ADVISORS
00074C      DTOT(Y) ............ REQ CONTACT HRS BY DISCIPLINE BY YEAR
00076C      ENROLL(D,N,S) ..... ACTUAL ENROLLMENT FOR COURSE BY SEMESTER
00078C      F .................. FACULTY NUMBER LOOP VARIABLE
00080C      FCR(F) ............ FACULTY MEMBER'S TEACHING CREDIT RESPONSIBLITY
00082C      FLG(16) ............ GENERAL PURPOSE FLAG FOR OVER-RUNS ETC.
00084C      GRANT(F,Y) ......... GRANT REVENUES FOR FACULTY MEMBER BY YEAR
00086C      GSTOT(S) ........... GRAND TOTAL OF REQ CONTACT HRS FOR SEMESTER
00088C R    HRS(F) ............ FACULTY MEMBER'S AVAILABLE INSTRUC CONTACT HRS
00090C      I .................. GENERAL PURPOSE LOOP VARIABLE
00092C R    IHRS(1) ............ AVAILABLE CONTACT HRS FOR INTERNSHIP SUPER.
00094C R    IHRS(2) ............ REQUIRED CONTACT HRS FOR INTERNSHIP SUPER.
00095C      IN ................. END OF LOOP VARIABLE
00096C      ITND(D) ............ TOTAL NUMBER OF COURSES IN EACH DISCIPLINE
00098C      J .................. GENERAL PURPOSE LOOP VARIABLE
00100C      JJ(22) ............ GENERAL PURPOSE ARRAY VARIABLE
00102C      K .................. GENERAL PURPOSE LOOP VARIABLE
00104C      L .................. GENERAL PURPOSE LOOP VARIABLE
00108C R    MCHRS ............. REQ CONTACT HRS WITH MAXIMUM ENROLLMENT
00110C      MCS ................ MAXIMUM CLASS SIZE INPUT VARIABLE
00112C      N .................. THE NUMBER OF THE COURSE WITHIN THE DISCIPLINE
00114C      NC ................. COURSE NUMBER INPUT VARIABLE
00116C      NF ................. NUMBER OF NEW FACULTY MEMBERS TO TAKE UP OVERAGE
00118C      NSS(F,1) ........... NUMBER OF THESES FACULTY MEMBER IS TO SUPERVISE
00120C      NSS(F,2) ........... NUMBER OF INTERNSHIPS FACULTY MEMBER MUST SUPER.
00122C      OVER ............... FACULTY MEMBER'S OVERAGE
00124C      PCORT(F,3) ......... % OF REQ CONTACT HRS FACULTY MEMBER MUST HANDLE
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00126C      PFACT(F,3) ........ % OF FACULTY TIME AVAILABLE FOR THE 3 DISCIPLINES
00128C      RCHRS(D,2) ........ REQ CONTACT HRS FOR DISCIPINES FOR FALL & WINTER
00130C      S ................ SALARY & SEMESTER LOOP VARIABLE
00132C      SAL(F) ........... SALARY OF FACULTY MEMBER
00134C      SF(1,10) ......... HOLDS THE #S OF FACULTY THAT CAN SUPERVISE THESES
00136C      SF(2,10) ......... HOLDS #S OF FACULTY THAT SUPERVISE INTERNSHIPS
00138C      SUP(F,1) ......... NUMBER OF THESES A FACULTY MEMBER CAN SUPERVISE
00140C      SUP(F,2) ......... # OF INTERNSHIPS A FACULTY MEMBER CAN SUPERVISE
00142C      T(1) ............. # THESES THAT CAN BE SUPERVISED
00144C      T(2) ............. # OF INTERNSHIPS THAT CAN BE SUPERVISED
00146C      TACHRS(D) ........ TOTAL # OF CONTACT HRS AVAILABLE FOR DISCIPLINE
00148C      TF ............... TOTAL NUMBER OF FACULTY
00150C      TGRANT ........... AVG. GRANT REVENUES OF AST PROFESSORS
00152C R    THRS(1) .......... AVAILABLE CONTACT HRS FOR THESES SUPERVISION
00154C R    THRS(2) .......... REQUIRED CONTACT HRS FOR THESES SUPERVISION
00156C      TIME(F) .......... % OF FACULTY MEMBER'S ASSIGNMENT TO MA PROGRAM
00158C      TOT .............. TOTALING & GENERAL PURPOSE VARIABLE
00160C      TOTHR ............ TOTAL # OF AVAIARLE CONTACT HOURS
00162C      TOVER ............ TOTAL OVERAGE ACROSS FACULTY
00164C      TRCHRS(D,2) ...... TOTAL REQ CONTACT HRS FOR DISCIPLINE F & W
00166C      TT(1) ............ DIFFERENCE OF AVAILABLE & REQUIRED THESIS SUPER TIME
00168C      TT(2) ............ DIFFERENCE OF AVAILABLE & REQ INTERNSHIP SUPER. TIME
00170C      TUNDER ........... TOTAL UNDERAGE ACCROSS FACULTY
00172C      TYP(F) ........... FACULTY RANK TYPE (IE ASC AST LEC ETC)
00174C      UNDER ............ FACULTY MEMBER'S UNDERAGE
00176C      X ................ RANDOM NUMBER GENERATOR VARIABLE
00178C      XGRNT(F) ......... FACULTY MEMBER'S MEAN GRANT REVENUE
00180C R    XX(4) ............ GENERAL PURPOSE ARRAY VARIABLE
00182C      Y ................ YEAR LOOP VARIABLE
00184C      YTOT(Y) .......... REQ CONTACT HRS FOR YEAR
00188C
00190C
00192C
00194C
00196C
00197C      >>>>>     B E G I N   P R O G R A M     <<<<<
00198C
00200 PROGRAM LYNN(INPUT,OUTPUT)
00210C
00212C      D I M E N S I O N   V A R I A B L E S
00214C
00300 INTEGER COURSE(12,12),CREDIT(12,12),CLASIZ(12,12),D,CN,CR,HCS
00310 REAL XX(4),CONTAC(12,12,4)
00320 INTEGER F,CD(20),FCR(20),TIME(20),SAL(20),XGRNT(20)
00330 INTEGER GRANT(20,8),OSPLN(20,3),PFACT(20,3),PCORT(20,3),TF
00340 REAL HRS(20),HCHRS
00350 DIMENSION TYP(20),FLG(16)
00360 INTEGER NC(16),CONHRS(12,12,16),STOT(16),DTOT(8),YTOT(8),GSTOT(16)
00370 INTEGER SUP(20,2),SF(2,10),NSS(10,2),T(2),TT(2),TOT,JJ(22)
00380 REAL THRS(2),IHRS(2),CCHR(8)
00390 INTEGER RCHRS(10,2),ACHRS(10),TRCHRS(10,2),TACHRS(10),DIFF
00400 INTEGER CUM(2),S,OVER,UNDER,TOVER,TUNDER,ENROLL(12,12,16),ITND(12)
00410 INTEGER DSTOT(12,16),Y,DT,TOTHR,TGRANT
00500 NEW=3H***
00600C
00610C      I N P U T   D A T A   O N   C O U R S E S   O F F E R E D
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00620C
01001 1001 CONTINUE
01100 READ 1110,CN,D,CR,MCS,(XX(J), J=1,4)
01110 1110 FORMAT(I3,3(1X,I2),4F6.2,40X)
01112C
01120 ITND(D)=ITND(D)+1
01130 N=ITND(D)
01140 COURSE(D,N)=CN
01150 CLASIZ(D,N)=MCS
01160 CREDIT(D,N)=CR
01170 DO 1190 I=1,4
01180 CONTAC(D,N,I)=XX(I)
01190 1190 CONTINUE
01200 IF (D.NE.12) GO TO 1001
01210C
01220C     P R I N T   D A T A   O N   C O U R S E S
01230C
01500 PRINT 1510
01510 1510 FORMAT(*1*,/,*0*,/,*0*,10X,*INPUT DATA ON COURSES OFFERED*)
01520 PRINT 1520
01530 1520 FORMAT(*0COURSE DISCI COURSE CLASS  COURSE-ACTIVITIES--*,
01540,*CONTACT-HOURS*,/,* NUMBER PLINE CREDIT SIZE   LECTURE*,
01550,4X,*LAB*,6X,*IND*,5X,*EXAM*,/,*0*)
01555C
01560 DO 1800 D=1,12
01565 IN=ITND(D)
01570 DO 1700 N=1,IN
01580 PRINT 1590,COURSE(D,N),D,CREDIT(D,N),CLASIZ(D,N),(CONTAC(D,N,I), I=1,4)
01590 1590 FORMAT(3X,I3,2(4X,I2),4X,I3,4(3X,F6.2))
01700 1700 CONTINUE
01800 1800 CONTINUE
01900C
01910C     I N P U T   D A T A   O N   F A C U L T Y
01920C
02200 READ 2210,TF
02210 2210 FORMAT(I2,70X)
02220C
02230 DO 2300 F=1,TF
02240 READ 2260,CD(F),TYP(F),FCR(F),(DSPLN(F,I),PFACT(F,I),PCORT(F,I), I=1,3),
02250,SUP(F,1),SUP(F,2),TIME(F),SAL(F),XGRNT(F),HRS(F)
02260 2260 FORMAT(I2,1X,A3,1X,I2,3(1X,I2,2I3),2(1X,I2),1X,I3,2(1X,I5),1X,F6.1)
02270 IF(XGRNT(F).EQ.0) GO TO 2300
02275C
02280 READ 2290,(GRANT(F,I), I=1,8)
02290 2290 FORMAT(2X,8(1X,I5))
02300 2300 CONTINUE
02310C
02312C     P R I N T   D A T A   O N   F A C U L T Y
02314C
02320 PRINT 2330
02330 2330 FORMAT(*1*,/,*0*,/,*0*,10X,*FACULTY  INPUT  DATA*)
02340 PRINT 2350
02350 2350 FORMAT(*0*,23X,*F A C U L T Y - D I S C I P L I N E S*,
02360,7X,*MAX MAX*,27X,*GRANT-REVENUES->75-82<*)
02370 PRINT 2380,(I, I=1975,1978)
02380 2380 FORMAT(*  FACULTY  CRED  *,3(*DSPLN FACT DSPLN *),
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02390** #    #   MA*,9X,*MEAN   INSTR*,4(2X,I4))
02400 PRINT 2410,(I, I=1,3),(J, J=1979,1982)
02410 2410 FORMAT(* CODE RANK HOUR*,3(3X,*#*,I2,1X,* LOAD LOAD*),
02420,2X,*THE INT TIME SALARY GRANT  HOURS*,4(2X,I4))
02425C
02430 DO 2500 F=1,TF
02440 PRINT 2440,CD(F),TYP(F),FGR(F),(DSPLN(F,I),PFACT(F,I),PCORT(F,I), I=1,3),
02450,SUP(F,1),SUP(F,2),TIME(F),SAL(F),XGRNT(F),HRS(F),(GRANT(F,I), I=1,8)
02460 2460 FORMAT(*0*,1X,I2,2X,A3,3X,I2,1X,3(4X,I2,2X,I3,*%*,1X,I3,*%*),
02470,2(2X,I2),2X,I3,*%*,1X,I5,2X,I5,1X,F6.1,4(1X,I5),/,100X,4(1X,I5))
02500  2500 CONTINUE
02510C
02520C     I N P U T   D A T A   O N   C O U R S E   E N R O L L M E N T
02530C
03003 3003 CONTINUE
03300 READ 3310,CN,(JJ(J), J=1,16)
03310 3310 FORMAT(I3,1X,8(1X,2I2))
03320 DO 3360 D=1,12
03325 IN=ITND(D)
03330 DO 3350 N=1,IN
03340 IF (CN.EQ.COURSE(D,N)) GO TO 3370
03350 3350 CONTINUE
03360 3360 CONTINUE
03370 3370 CONTINUE
03375C
03380 DO 3400 J=1,16
03390 ENROLL(D,N,J)=JJ(J)
03400 3400 CONTINUE
03410 IF (CN.NE.699) GO TO 3003
03415C
03500 PRINT 3510
03510 3510 FORMAT(*1*,/,*0*,/,*0*,10X,*COURSE REQUIREMENT INPUT DATA*)
03520 PRINT 3530,(J, J=1975,1982)
03530 3530 FORMAT(*0COURSE *,8(4X,I4)/,* NUMBER *,8(4X,*F  W*),/,*0*)
03540C
03545C     P R I N T   D A T A   O N   C O U R S E   E N R O L L M E N T
03550C
03560 DO 3700 D=1,10
03565 IN=ITND(D)
03570 DO 3700 N=1,IN
03580 PRINT 3590,COURSE(D,N),(ENROLL(D,N,J), J=1,16)
03590 3590 FORMAT(3X,I3,2X,8(3X,I2,1X,I2))
03700 3700 CONTINUE
03705C
03810 DO 3900 D=11,12
03830 PRINT 3840,COURSE(D,1),(ENROLL(D,1,J), J=2,16,2)
03840 3840 FORMAT(3X,I3,1X,8(6X,I2))
03900 3900 CONTINUE
03910C
03920C     C A L C U L A T E   F A C U L T Y   C O N T A C T   H O U R   R E Q U I R E M E N T
03930C
04000 PRINT 4010
04010 4010 FORMAT(*1*,/,*0*,/*0*,20X,*FACULTY CONTACT HOURS REQUIRED*)
04020 PRINT 4030
04030 4030 FORMAT(21X,*BY SEMESTER, DISCIPLINE,& YEAR*)
04040 PRINT 4050
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04050 4050 FORMAT(*0*,55X,*STAFF CONTACT HOURS*)
04060 PRINT 4070,(J, J=1975,1982)
04070 4070 FORMAT(12X,*COURSE*,8X,*CONTACT    *,8(I4,7X))
04080 PRINT 4090
04090 4090 FORMAT(* DISCIPLINE NUMBER CREDIT HRS-MAX*,8(1X,*FALL WINT*,1X))
04092C
04094C     C A L C U L A T E   F O R   D I S C I P L I N E S   1   T H R O U G H   1 0
04100 DO 4900 D=1,10
04102C
04110 DO 4120 J=1,16
04120 4120 STOT(J)=0
04130C
04132C
04134C     C A L C U L A T E   M A X I M U M   C O N T A C T   H O U R S   G I V E N   M A X I M U M   E N R O L L M E N T
04135 IN=ITND(D)
04136C
04140 DO 4800 N=1,IN
04150 MCHRS=CONTAC(D,N,1)+CONTAC(D,N,2)
04160 MCHRS=MCHRS+(CONTAC(D,N,3)*CLASIZ(D,N))
04170 MCHRS=MCHRS+(CONTAC(D,N,4)*CLASIZ(D,N))
04180C
04182C
04184C     C A L C U L A T E   A C T U A L   C O N T A C T   H O U R   R E Q U I R E M E N T
04186C
04190 DO 4700 J=1,16
04200 FLG(J)=1H
04210 XX(1)=XX(2)=XX(3)=0
04220 IF (ENROLL(D,N,J).LE.0) GO TO 4300
04230 XX(1)=CONTAC(D,N,1)+CONTAC(D,N,2)
04240 XX(2)=CONTAC(D,N,3)*ENROLL(D,N,J)
04250 XX(3)=CONTAC(D,N,4)*ENROLL(D,N,J)
04260 NC(J)=NC(J)+1
04300 4300 CONTINUE
04310 CONHRS(D,N,J)=INT(XX(1)+XX(2)+XX(3))
04312C
04314C     F L A G   A N Y   C O U R S E   W I T H   C O N T A C T   H R S   R E Q U I R E D   O V E R   M A X I M U M
04316C
04320 IF (CONHRS(D,N,J).LE.MCHRS) GO TO 4400
04330 FLG(J)=1H*
04400 4400 CONTINUE
04410 STOT(J)=STOT(J)+CONHRS(D,N,J)
04500 GSTOT(J)=GSTOT(J)+STOT(J)
04600 DSTOT(D,J)=DSTOT(D,J)+CONHRS(D,N,J)
04700 4700 CONTINUE
04702C
04704C     *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
04706C
04710C
04715C     P R I N T   F A C U L T Y   C O N T A C T   H O U R   R E Q U I R E M E N T   R E P O R T
04716C
04720 PRINT 4730,D,COURSE(D,N),CREDIT(D,N),MCHRS,(CONHRS(D,N,J),FLG(J), J=1,16)
04730 4730 FORMAT(5X,I2,6X,I3,5X,I2,3X,F1.2,8(1X,I4,A1,I4,A1))
04800 4800 CONTINUE
04810C
04820 I=1
04830 DO 4860 J=1,15,2
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04840 DTOT(I)=STOT(J)+STOT(J+1)
04850 YTOT(I)=YTOT(I)+DTOT(I)
04860 4860 I=I+1
04870 PRINT 4875,(STOT(J), J=1,16)
04875 4875 FORMAT (*0*,11X,*SEMESTER   TOTALS   *,8(2X,I4,1X,I4))
04880 PRINT 4885,(DTOT(I), I=1,8)
04885 4885 FORMAT(12X,*DISCIPLINE TOTALS*,2X,8(7X,I4),/,*0*,/)
04890C
04900 4900 CONTINUE
04910C
04920 PRINT 4930,(GSTOT(J), J=1,16)
04930 4930 FORMAT(*0GRAND TOTALS FOR THE SEMESTERS  *,8(1X,2I5))
04940 PRINT 4950,(YTOT(I), I=1,8)
04950 4950 FORMAT(* GRAND TOTALS FOR THE YEARS    *,8(7X,I4))
04960 DO 4970 J=2,16,2
04970 4970 NC(J/2)=NC(J)+NC(J-1)
04980 PRINT 4985,(YTOT(I),NC(I), I=1,8)
04985 4985 FORMAT(*0CREDIT CONTACT HOUR RATIO*,7X,8(2X,I4,* /*,I3))
04986 DO 4988 I=1,8
04988 4988 CCHR(I)=FLOAT(YTOT(I)/NC(I))
04990 PRINT 4995,(CCHR(I), I=1,8)
04995 4995 FORMAT(31X,8(4X,F7.2))
04996C
04998C     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
04999C
05000C
05010C     C A L C U L A T E   F A C U L T Y   O V E R A G E / U N D E R A G E   F O R   Y E A R S   1 9 7 5   T O   1 9 8 2
05020C
05030 DO 7000 Y=1,8
05035C
05040 DO 5050 J=1,22
05050 5050 JJ(J)=1974+Y
05060 PRINT 5070,(JJ(J), J=1,22)
05070 5070 FORMAT(*1*,/,*0*,/,*0*,22(2X,I4))
05100 S=Y*2
05105C
05110 PRINT 5120,CCHR(Y)
05120 5120 FORMAT(*0     FACULTY OVERAGE/UNDERAGE REPORT*,30X,*NOTE*,
05130+2X,*CREDIT CONTACT RATIO =*,F7.2)
05140 PRINT 5150
05150 5150 FORMAT(*0FACULTY INSTRUC THESIS  INTERN*,
05160+8X,*FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER*,
05170+23X,*CUM  CUM*)
05180 PRINT 5190,(I, I=1,12)
05190 5190 FORMAT(* CODE    CREDIT  CREDIT  CREDIT  TOTAL*,10(3X,I2,1X),
05200+1X,*OVER UNDER*,2(2X,I2,1X),* INSTR SUPER*)
05210 PRINT 5220
05220 5220 FORMAT(*  # RANK CONTACT CONTACT CONTACT HOURS*,10(2X,*F  W*),
05230+2X,*AGE  AGE  THES INTN HOURS HOURS*)
05240C
05245C     A S S I G N   T H E S E S   &   I N T E R N S H I P S
05250C
05270 DO 5700 I=1,2
05280 T(I)=0
05290 DO 5330 F=1,TF
05300 IF(SUP(F,I).EQ.0) GO TO 5330
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```
05310 T(I)=T(I)+1
05315 IN=T(I)
05320 SF(I,IN)=F
05330 5330 CONTINUE
05335C
05340 J=0
05350 N=(ENROLL(10+I+1,S)/T(I))
05355 IN=T(I)
05360 DO 5460 K=1,IN
05370 F=SF(I,K)
05380 5380 IF (N.LE.SUP(F,I)+J) GO TO 5450
05410 J=J+1
05440 GO TO 5380
05450 5450 NSS(F,I)=N
05460 5460 CONTINUE
05465C
05470 J=0
05480 TOT=T(I)
05490 DT=ENROLL(10+I+1,S)-(T(I)*N)
05500 IF (DT.LE.0) GO TO 5710
05510 DO 5700 K=1,DT
05520 5520 X=RANF(X)
05530 N= TOT*RANF(X) + 1
05540 F=SF(I,N)
05550 IF (NSS(F,I).LT.SUP(F,I)+J) GO TO 5670
05560 SF(I,N)=SF(I,TOT)
05570 SF(I,TOT)=F
05580 TOT=TOT-1
05590 IF (TOT.GT.0) GO TO 5520
05620 J=J+1
05650 TOT=T(I)
05660 GO TO 5520
05670 5670 CONTINUE
05680 NSS(F,I)=NSS(F,I)+1
05700 5700 CONTINUE
05710 5710 CONTINUE
05720C
05730C     C A L C U L A T E   O V E R A G E / U N D E R A G E   F O R   F A C U L T Y   F O R   T H E   Y E A R
05740C
05750 DO 6250 F=1,TF
05760 DIFF=0
05762C
05764C     C A L C U L A T E   A V A I L A B L E   C O N T A C T   H O U R S   F O R   T H E S E S   &   I N T E R N S H I P S
05766C
05770 THRS(1)=SUP(F,1)*(CONTAC(11,1,3)+CONTAC(11,1,4))
05780 IHRS(1)=SUP(F,2)*(CONTAC(12,1,3)+CONTAC(12,1,4))
05790 TOTHR=INT(HRS(F)+THRS(1)+IHRS(1))
05795C
05800 DO 8040 D=1,10
05810 DO 8040 I=1,2
05820 RCHRS(D,I)=0
05825 FLG(I)=1H
05830 ACHRS(D)=0
05840 8040 CONTINUE
05850C
05855C     C A L C U L A T E   O V E R A G E / U N D E R A G E   F O R   O T H E R   D I S C I P L I N E S
```

```
05856C
05860 DO 5960 I=1,3
05870 D=DSPLN(F,I)
05875 IF (D.EQ.0) GO TO 5960
05880 RCHRS(D,1)=(DSTOT(D,S-1)*PCORT(F,I) / 100 )
05890 RCHRS(D,2)=(DSTOT(D,S)*PCORT(F,I) / 100 )
05900 ACHRS(D)=INT(HRS(F)*PFACT(F,I) / 100 )
05910 DIFF=DIFF+ACHRS(D)-(RCHRS(D,1)+RCHRS(D,2))
05930 TRCHRS(D,1)=TRCHRS(D,1)+RCHRS(D,1)
05940 TRCHRS(D,2)=TRCHRS(D,2)+RCHRS(D,2)
05950 TACHRS(D)=TACHRS(D)+ACHRS(D)
05960 5960 CONTINUE
05965C
05970 IF (DIFF.LT.0) GO TO 6010
05980 OVER=0
05990 UNDER=DIFF
06000 GO TO 06030
06010 6010 OVER=DIFF
06020 UNDER=0
06030 6030 CONTINUE
06040 TOVER=TOVER+OVER
06050 TUNDER=TUNDER+UNDER
06060C
06064C     P R I N T   O V E R A G E / U N D E R A G E   R E P O R T   F O R   F A C U L T Y   M E M B E R
06066C
06070 THRS(2)=NSS(F,1)*(CONTAC(11,1,3)+CONTAC(11,1,4))
06075 T(1)=INT(THRS(2))
06080 IHRS(2)=NSS(F,2)*(CONTAC(12,1,3)+CONTAC(12,1,4))
06085 T(2)=INT(IHRS(2))
06090 CUM(1)=INT(HRS(F)-DIFF)
06100 CUM(2)=(CUM(1)+T(1)+T(2))
06102 DO 6108 I=1,2
06104 IF (NSS(F,I).LE.SUP(F,I)) GO TO 6108
06106 FLG(I)=1H*
06108 6108 CONTINUE
06109C
06110 PRINT 6120,CD(F),TYP(F),FCR(F),(SUP(F,I), I=1,2),(RCHRS(I,1), I=1,10),
06120+(NSS(F,I),FLG(I), I=1,2)
06130 6120 FORMAT(*0*,I2,1X,A3,2X,3(I2,*/*,5X),3X,10(3X,I3),13X,2(2X,I2,A1))
06140 PRINT 6150,HRS(F),THRS(1),IHRS(1),TOTHR,(RCHRS(I,2), I=1,10),T(1),T(2)
06150 6150 FORMAT(8X,3(2X,F6.1),1X,I4,2X,10(3X,I3),10X,2(1X,I4))
06152 DO 6158 M=1,10
06154 ACHRS(M)=ACHRS(M)/2
06158 6158 CONTINUE
06160 PRINT 6170,(ACHRS(I), I=1,10),OVER,UNDER,(CUM(I), I=1,2)
06170 6170 FORMAT(39X,10(I3,3X),2(I4,1X),10X,2(1X,I5))
06180 T(1)=THRS(1)-T(1)
06190 TT(1)=TT(1)+T(1)
06200 T(2)=IHRS(1)-T(2)
06210 TT(2)=TT(2)+T(2)
06220 PRINT 6230,(ACHRS(I), I=1,10),T(1),T(2)
06230 6230 FORMAT(39X,10(3X,I3),10X,2I5)
06240C
06250 6250 CONTINUE
06260C
06270C     P R I N T   G R A N D   T O T A L S   F O R   Y E A R
```

```
06280C
06284 DO 6286 I=1,10
06286 6286 TACHRS(I)=TACHRS(I)/2
06290 PRINT 6300,(TRCHRS(I,1), I=1,10),TOVER
06300 6300 FORMAT(*0*,18X,*TOTAL REQUIRED *,4X,10(I4,2X),I6)
06310 PRINT 6320,(TRCHRS(I,2), I=1,10),TUNDER
06320 6320 FORMAT(39X,10(2X,I4),4X,I6)
06330 PRINT 6340,(TACHRS(I), I=1,10)
06340 6340 FORMAT(19X,*TOTAL AVAILABILITY *,10(I4,2X))
06350 TOT=TOVER+TUNDER
06360 PRINT 6370,(TACHRS(I), I=1,10),TOT,TT(1),TT(2)
06370 6370 FORMAT(39X,10(2X,I4),2X,I5,3X,2(1X,I4))
06372C
06374C     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
06376C
06380C
06385C     P R I N T   F A C U L T Y   D E S C R I P T I O N   R E P O R T
06390C
06400 TOT= TOT*(1-2)
06410 PRINT 5070,(JJ(I), I=1,22)
06420 PRINT 6430
06430 6430 FORMAT(*0   FACULTY DESCRIPTION - BY APPOINTMENT, CREDIT LOAD,*
06440+1X,*SALARY, AND GRANT REVENUES*)
06450 PRINT 6460
06460 6460 FORMAT(*0 FACULTY  PERCENT CREDIT THESIS  TOTAL  SALARY*,
06470+2X,*SALARY   GRANT-REVENUES*,/,* CODE RANK APPOINT__LOAD  CREDIT*,
06480+1X,*CREDITS BY RANK FOR MA     AVG      YEAR*,/,*0*,/)
06482C
06484 NF=0
06486 L=0
06490 IF(CCHR(Y).EQ.0) GO TO 7000
06500 IF (TOT.LT.0) GO TO 6540
06502C
06504C     C A L C U L A T E   F U L L   T I M E   E Q U I V A L E N T S   N E E D E D
06505C
06510 FTE=(TOT/CCHR(Y))*3
06520 NF=(FTE/18)
06525 IF (NF.GT.50) GO TO 7000
06530 L=(FTE-(NF*18))
06540 6540 CONTINUE
06545C
06550 DO 6900 F=1,TF
06560 IF(CD(F).EQ.20) GO TO 6700
06570 6570 S=SAL(F)
06580 IF(CD(F).GT.19) GO TO 6600
06590 S=( S * TIME(F) ) / 100
06600 6600 TOT=FCR(F)+NSS(F,1)
06606C
06610 PRINT 6620,CD(F),TYP(F),TIME(F),FCR(F),NSS(F,1),TOT,SAL(F),S,XGRNT(F),
06615+GRANT(F,Y)
06620 6620 FORMAT(2X,I2,3X,A3,4X,I3,3(5X,I2),2X,4(3X,I5))
06630 GO TO 6900
06640C
06650C     R E P O R T   O N   W H A T   N E W   F A C U L T Y   I S   N E E D E D
06660C
06700 6700 IF (NF.EQ.0) GO TO 6800
```

```
06710 JJ(1)=100
06720 JJ(2)=18
06730 JJ(3)=INT(DT/NF*1.0001)
06740 JJ(4)=18+JJ(3)
06750 JJ(5)=20000
06760 JJ(6)=20000
06765 DO 6790 K=1,NF
06770 N=TF+K
06780 PRINT 6620,N,NEW,(JJ(I), I=1,6),TGRANT,TGRANT
06790 6790 CONTINUE
06795C
06800 6800 IF (L.LE.0) GO TO 6570
06810 JJ(1)=INT(L/3*16.0001)
06820 JJ(2)=L
06830 JJ(3)=0
06840 JJ(4)=L
06850 JJ(5)=INT(20000*L/18*1.0001)
06860 JJ(6)=JJ(5)
06870 N=TF+NF+1
06880 PRINT 6620,N,NEW,(JJ(I), I=1,6),JJ(3),JJ(3)
06890 GO TO 6570
06900 6900 CONTINUE
06950C
07000 7000 CONTINUE
08000C
89000 END
```

APPENDIX B

COURSE WEIGHTS

Instructions:

This form represents an attempt to estimate, in terms of contact hours, the instructional effort required of a faculty member assigned to the responsibility of conducting a given Educational Technology course.

The courses listed below have been assigned 2, 3, and 4 activity components. The lecture and lab components are not student dependent in the sense that: whatever number of students are enrolled in these two activities, the contact hours which represent faculty effort is equal to the number of lecture or lab hours established for that specific course in a given semester.

The student dependent activities (individual work and examiniations) therefore are to be expressed in faculty contact hours per student.

Individual work includes such elements as student term papers, a student project, a student seminar.

Examinations - could include written, media or oral presentations.

In weighing the above activities on a contact hour per student basis, the following details should be considered.

B.

The staff time required:

i) to prepare and evaluate assignments, projects, examinations

ii) for consulting with the student who is preparing a given paper or project;

iii) for formal seminar presentation or examination, if other than a regularly scheduled lecture period.

Note: 690 and 699 (Thesis and Internship)

The 'individual' category refers to the faculty advisors guidance time spent with a student on a thesis or intership project.

The 'exam' category designates the time a faculty member spends reviewing (either alone and/or in a formal faculty meeting) thesis, thesis proposals or internsip projects.

COURSE WEIGHTS INSTRUMENT

Course Number	Credits	Maximum Class Size	Course Activities - Faculty Contact Hours			
			Lecture	Lab	Indiv.	Exams
602	3		_____ Hrs.	_____ Hrs.	___ Hrs./Ss	___ Hrs./Ss
605	3					
606	3					
607	3					
608	3					
611	3					
613	3					
614	3					
615	3					
618	3					
622	3					
623	3					
624	3					
631	3					
632	3					
633	3					
634	3					
640	3					
641	3					
642	3					
643	3					
651	3					
652	3					
653	3					
654	3					
655	3					
661	3					
662	3					
681	3					
682	3					
683	3					
684	3					
685	3					
686	3					
691	3					
692	3					
693	3					
694	3					
701	3					
702	3					
					Individual	Exam
699	15	1	0	0	___ Hrs./Ss	___ Hrs./Ss
690	36	1	0	0		

FINANCIAL DATA, REFERENCES AND FORMULAS

I. Faculty Salary (estimates)/annum

a) Associate Professor ≈ $25,000.00
b) Assistant Professor ≈ $20,000.00
c) Lecturer = $ 1,450.00/3 credits

II. Government Grant/F.T.E. Student

a) 1 F.T.E. Ss* = {(student places/course X course credit value) 30 credits
b) 1 F.T.E. Ss = $3,800.00/annum

III. Student Resource Input - Tuition

a) 1 student place = $10.00/course credit
or
b) $30.00/student/3 credit course
$360.00/students/thesis (36 credits)
$150.00/student/internship (15 credits)

IV. Calculation For Faculty Grant Revenues

a) Associate $\bar{x}$ value $7,735.00 > $\bar{x}$ for this range = $5,492.00
Assistant $\bar{x}$ value $3,250.00

∴ Let current/faculty member be = $5,500.00/annum grant revenue.

Current (total) faculty = $27.5K/annum

b) Let newly hired faculty be = to assistant $\bar{x}$ value

∴ New faculty = $3.0K/annum/faculty member

* Full time equivalent student

ENROLLMENT FORECAST* (15)

	Category of Student	77-78	78-79	79-80	80-81	81-82	82-82
5.1	F.T. (WMR for 2 yr.)	75	73	66	60	60	60
	F.T. (BMR)	14	35	44	49	51	52
	Total F.T.	89	108	110	109	111	112
5.2	P.T. (WMR for 4 yr.)	22	11	5	-	-	-
	P.T. (BMR)	13	11	7	5	3	-
	Total P.T.	35	22	12	5	3	-
	Total Enrollment	124	130	122	114	114	112
	F.T.E. (F.T. = ½(P.T.)	107	119	116	112	113	112
5.3	Partial	1	1	1	1	1	1
5.4	Q.Y. (Day)	-	-	-	-	-	-
5.5	Q.Y. (Evening)	-	-	-	-	-	-

APPENDIX C

F.T. AND P.T. INSTRUCTIONAL APPOINTMENTS

Percentage Appointment	Annual Salary (K) Assistant	Annual Grant Revenue Estimate (K)/ New Staff Member	Instructional Credit Range Assignment
0.50	10.0	3.0	9- 12
0.66	13.4	3.0	12- 15
0.75	15.0	3.0	15- 18
1.00	20.0	3.0	18- 24
1.50	30.0	6.0	27- 36
1.66	33.4	6.0	30- 39
1.75	35.0	6.0	33- 42
2.00	40.0	6.0	36- 48
2.50	50.0	9.0	45- 60
2.66	53.4	9.0	48- 63
2.75	55.0	9.0	51- 66
3.00	60.0	9.0	54- 72
3.50	70.0	12.0	63- 84
3.66	73.4	12.0	66- 87
3.75	75.0	12.0	69- 90
4.00	80.0	12.0	72- 96
4.50	90.0	15.0	81-108
4.66	93.4	15.0	84-111
4.75	95.0	15.0	87-114
5.00	100.0	15.0	90-120

FACULTY CONTACT HOURS REQUIRED
BY SEMESTER, DISCIPLINE, & YEAR

30 STUDENTS

STAFF CONTACT HOURS

DISCIPLINE	COURSE NUMBER	CREDIT	CONTACT HRS-MAX	1975 FALL	1975 WINT	1976 FALL	1976 WINT	1977 FALL	1977 WINT	1978 FALL	1978 WINT	1979 FALL	1979 WINT	1980 FALL	1980 WINT	1981 FALL	1981 WINT	1982 FALL	1982 WINT
1	602	3	86.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	605	3	126.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	606	3	126.00	130*	110	118	0	110	0	102	86	126	0	110	58	106	66	0	78
1	607	3	176.00	226*	226*	0	0	286*	216*	176	176	166	186*	206*	116	136	176	166	0
1	608	3	176.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SEMESTER TOTALS			356	336	118	0	396	216	278	262	292	186	316	174	242	242	166	78
	DISCIPLINE TOTALS			692		118		612		540		478		490		484		244	
2	611	3	51.00	0	31	0	40	0	31	34	0	0	34	36	0	0	31	35	0
2	613	3	151.00	126	96	96	106	96	91	126	101	126	76	146	0	121	106	76	126
2	614	3	76.00	68	0	42	0	42	0	56	0	52	0	0	42	46	0	0	56
2	615	3	76.00	36	0	0	0	0	0	0	40	0	0	0	0	46	0	0	0
2	618	3	126.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SEMESTER TOTALS			230	127	138	146	138	122	216	141	178	110	182	42	213	137	111	182
	DISCIPLINE TOTALS			357		284		260		357		288		224		350		293	
3	622	3	126.00	58	0	0	90	0	0	74	0	0	58	66	0	0	42	58	0
3	623	3	71.00	56	47	53	0	50	0	0	68	56	0	0	50	59	0	0	38
3	624	3	226.00	0	0	0	0	0	0	0	0	0	66	0	0	54	0	0	0
	SEMESTER TOTALS			114	47	53	90	50	0	74	68	56	124	66	50	113	42	58	38
	DISCIPLINE TOTALS			161		143		50		142		180		116		155		96	
4	631	3	106.00	46	46	0	0	0	54	66	0	54	0	0	58	46	0	46	0
4	632	3	106.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	633	3	86.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	634	3	156.00	75	0	0	120	0	66	102	0	84	0	0	120	66	0	0	120
	SEMESTER TOTALS			121	46	0	120	0	120	168	0	138	0	0	178	112	0	66	120
	DISCIPLINE TOTALS			167		120		120		168		138		178		112		186	
5	640	3	252.00	124	108	112	112	176	0	172	0	0	172	152	0	192	0	0	212
5	641	3	102.00	0	0	0	80	0	76	0	82	0	92	94	0	0	102	0	92
5	642	3	102.00	72	0	0	82	0	98	84	0	82	0	0	72	82	0	92	0
5	643	3	101.00	47	0	44	0	0	0	0	56	0	50	44	0	53	0	0	44
	SEMESTER TOTALS			243	108	156	274	176	174	256	138	82	314	290	72	327	102	92	348
	DISCIPLINE TOTALS			351		430		350		394		396		362		429		440	
6	651	3	126.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	652	3	126.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	653	3	346.00	0	0	106	0	0	106	154	0	106	0	0	138	106	0	0	154
6	654	3	101.00	0	0	0	47	65	0	0	56	47	0	0	62	71	0	0	41
6	655	3	101.00	0	0	41	0	0	0	50	0	0	56	41	0	44	0	0	0
	SEMESTER TOTALS					147		65	106	204	56	153	56						195
	DISCIPLINE TOTALS			0		194		171		260		209		241		221		195	

30 STUDENTS

7	661	3	86.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	662	3	95.00	0	41	53	0	35	0	50	0	0	53	44	0	41	0	0	50
	SEMESTER TOTALS			0	41	53	0	35	0	50	0	0	53	44	0	41	0	0	50
	DISCIPLINE TOTALS				41		53		35		50		53		44		41		50
8	681	3	91.00	0	51	71	0	0	0	76	0	66	0	0	56	61	0	0	71
8	682	3	195.00	216*	0	188	0	195	0	195	0	216*	0	188	0	146	0	216*	0
8	683	3	247.00	0	269*	0	181	0	236	0	247	0	236	0	181	0	214	0	269*
8	684	3	91.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	685	3	76.00	0	81*	0	101*	0	96*	86*	0	96*	0	101*	0	71	0	76	0
8	686	3	126.00	0	106	81	0	101	0	0	96	106	0	0	81	76	0	0	106
	SEMESTER TOTALS			216	507	340	282	296	332	357	343	484	236	289	318	354	214	292	446
	DISCIPLINE TOTALS				723		622		628		700		720		607		568		738
9	691	3	200.00	200	200	0	0	250*	0	0	0	0	0	400*	0	0	0	0	0
9	692	3	200.00	200	200	0	0	0	0	0	400*	0	0	0	0	0	0	400*	0
9	693	3	66.00	0	0	66	0	0	0	0	0	0	0	0	56	0	0	0	0
9	694	3	66.00	0	0	0	0	46	0	0	0	0	0	0	0	0	58	0	0
	SEMESTER TOTALS			400	400	66	0	296	0	0	400	0	0	400	56	0	58	400	0
	DISCIPLINE TOTALS				800		66		296		400		0		456		58		400
10	701	3	126.00	0	78	62	0	0	86	86	0	86	0	0	70	0	62	66	0
10	702	3	116.00	0	0	0	0	0	0	0	0	0	71	0	0	0	0	0	0
	SEMESTER TOTALS			0	78	62	0	0	86	86	0	86	71	0	70	0	62	66	0
	DISCIPLINE TOTALS				78		62		86		86		157		70		62		66
GRAND TOTALS FOR THE SEMESTERS				5334	5278	3577	2886	4503	3283	5281	3928	4304	3224	5465	3059	4570	2599	3997	4472
GRAND TOTALS FOR THE YEARS					3370		2092		2608		3097		2619		2788		2480		2708
CREDIT CONTACT HOUR RATIO					3370 / 30		2092 / 24		2608 / 23		3097 / 28		2619 / 27		2788 / 27		2480 / 29		2708 / 24
					112.00		87.00		113.00		110.00		97.00		103.00		85.00		112.00

FACULTY CONTACT HOURS REQUIRED
BY SEMESTER, DISCIPLINE, & YEAR

MAXIMUM

STAFF CONTACT HOURS

DISCIPLINE	COURSE NUMBER	CREDIT	CONTACT HRS-MAX	1975 FALL	1975 WINT	1976 FALL	1976 WINT	1977 FALL	1977 WINT	1978 FALL	1978 WINT	1979 FALL	1979 WINT	1980 FALL	1980 WINT	1981 FALL	1981 WINT	1982 FALL	1982 WINT
1	602	3	86.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	605	3	126.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	606	3	126.00	126	126	126	0	126	0	126	126	126	0	126	126	126	126	0	126
1	607	3	176.00	176	176	0	0	176	176	176	176	176	176	176	176	176	176	176	0
1	608	3	176.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SEMESTER TOTALS			302	302	126	0	302	176	302	302	302	176	302	302	302	302	176	126
	DISCIPLINE TOTALS			604		126		478		604		478		604		604		302	
2	611	3	51.00	0	51	0	51	0	51	51	0	0	51	51	0	0	51	51	0
2	613	3	151.00	151	151	151	151	151	151	151	151	151	151	151	0	151	151	151	151
2	614	3	76.00	76	0	76	0	76	0	76	0	76	0	0	76	76	0	0	76
2	615	3	76.00	76	0	0	0	0	0	0	76	0	0	0	0	76	0	0	0
2	618	3	126.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SEMESTER TOTALS			303	202	227	202	227	202	278	227	227	202	202	76	303	202	202	227
	DISCIPLINE TOTALS			505		429		429		505		429		278		505		429	
3	622	3	126.00	126	0	0	126	0	0	126	0	0	126	126	0	0	126	126	0
3	623	3	71.00	71	71	71	0	71	0	0	71	71	0	0	71	71	0	0	71
3	624	3	226.00	0	0	0	0	0	0	0	0	0	226	0	0	226	0	0	0
	SEMESTER TOTALS			197	71	71	126	71	0	126	71	71	352	126	71	297	126	126	71
	DISCIPLINE TOTALS			268		197		71		197		423		197		423		197	
4	631	3	106.00	106	106	0	0	0	106	106	0	106	0	0	106	106	0	106	0
4	632	3	106.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	633	3	86.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	634	3	156.00	156	0	0	156	0	156	156	0	156	0	0	156	156	0	0	156
	SEMESTER TOTALS			262	106	0	156	0	262	262	0	262	0	0	262	262	0	106	156
	DISCIPLINE TOTALS			368		156		262		262		262		262		262		262	
5	640	3	252.00	252	0	252	252	252	0	252	0	0	252	252	0	252	0	0	252
5	641	3	102.00	0	102	0	102	0	102	0	102	0	102	102	0	0	102	0	102
5	642	3	102.00	102	0	0	102	0	102	102	0	102	0	0	102	102	0	102	0
5	643	3	101.00	101	0	101	0	0	0	0	101	0	101	101	0	101	0	0	101
	SEMESTER TOTALS			455	102	353	456	252	204	354	203	102	455	455	102	455	102	102	455
	DISCIPLINE TOTALS			557		809		456		557		557		557		557		557	
6	651	3	126.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	652	3	126.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	653	3	346.00	0	0	346	0	0	346	346	0	346	0	0	346	346	0	0	346
6	654	3	101.00	0	0	0	101	101	0	0	101	101	0	0	101	101	0	0	101
6	655	3	101.00	0	0	101	0	0	0	101	0	0	101	101	0	101	0	101	0
	SEMESTER TOTALS			0	0	447	101	101	346	447	101	447	101	101	447	548	0	101	447
	DISCIPLINE TOTALS					548		447		548		548		548		548		548	

Maximum

7	661	3	86.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	662	3	95.00	0	95	95	0	95	0	95	0	0	95	95	0	95	0	0	95
	SEMESTER TOTALS			0	95	95	0	95	0	95	0	0	95	95	0	95	0	0	95
	DISCIPLINE TOTALS				95		95		95		95		95		95		95		95
8	681	3	91.00	0	91	91	0	0	0	91	0	91	0	0	91	91	0	0	91
8	682	3	195.00	195	0	195	0	195	0	195	0	195	0	195	0	195	0	195	0
8	683	3	247.00	0	247	0	247	0	247	0	247	0	247	0	247	0	247	0	247
8	684	3	91.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	685	3	76.00	0	76	0	76	0	76	76	0	76	0	76	0	76	0	76	0
8	686	3	126.00	0	126	126	0	126	0	0	126	126	0	0	126	126	0	0	126
	SEMESTER TOTALS			195	540	412	323	321	323	362	373	488	247	271	464	488	247	271	464
	DISCIPLINE TOTALS				735		735		644		735		735		735		735		735
9	691	3	200.00	200	200	0	0	200	0	0	0	0	0	200	0	0	0	0	0
9	692	3	200.00	200	200	0	0	0	0	0	200	0	0	0	0	0	0	200	0
9	693	3	66.00	0	0	66	0	0	0	0	0	0	0	0	66	0	0	0	0
9	694	3	66.00	0	0	0	0	66	0	0	0	0	0	0	0	0	66	0	0
	SEMESTER TOTALS			400	400	66	0	266	0	0	200	0	0	200	66	0	66	200	0
	DISCIPLINE TOTALS				800		66		266		200		0		266		66		200
10	701	3	126.00	0	126	126	0	0	126	126	0	126	0	0	126	0	126	126	0
10	702	3	116.00	0	0	0	0	0	0	0	0	0	116	0	0	0	0	0	0
	SEMESTER TOTALS			0	126	126	0	0	126	126	0	126	116	0	126	0	126	126	0
	DISCIPLINE TOTALS				126		126		126		126		242		126		126		126

GRAND TOTALS FOR THE SEMESTERS	6502 6020	5726 4253	4976 4731	7146 3951	5779 4530	5505 5168	7210 3579	4297 5918
GRAND TOTALS FOR THE YEARS	4058	3287	3274	3829	3769	3668	3921	3451
CREDIT CONTACT HOUR RATIO	4058 / 30 135.00	3287 / 24 136.00	3274 / 23 142.00	3829 / 28 136.00	3769 / 27 139.00	3668 / 27 135.00	3921 / 29 135.00	3451 / 25 138.00

FACULTY CONTACT HOURS REQUIRED
BY SEMESTER, DISCIPLINE, & YEAR

60 STUDENTS

STAFF CONTACT HOURS

DISCIPLINE	COURSE NUMBER	CREDIT	CONTACT HRS-MAX	1975 FALL	1975 WINT	1976 FALL	1976 WINT	1977 FALL	1977 WINT	1978 FALL	1978 WINT	1979 FALL	1979 WINT	1980 FALL	1980 WINT	1981 FALL	1981 WINT	1982 FALL	1982 WINT
1	602	3	86.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	605	3	126.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	606	3	126.00	130*	110	118	0	110	0	106	106	146*	0	106	66	114	106	0	106
1	607	3	176.00	226*	226*	0	0	286*	216*	176	176	226*	76	176	176	226*	126	206*	0
1	608	3	176.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SEMESTER TOTALS			356	336	118	0	396	216	282	282	372	76	282	242	340	232	206	106
	DISCIPLINE TOTALS			692		118		612		564		448		524		572		312	
2	611	3	51.00	0	31	0	40	0	31	38	0	0	36	36	0	0	34	38	0
2	613	3	151.00	126	96	96	106	96	91	126	101	101	126	151	0	126	76	101	76
2	614	3	76.00	68	0	42	0	42	0	66	0	56	0	0	50	50	0	0	66
2	615	3	76.00	36	0	0	0	0	0	0	44	0	0	0	0	56	0	0	0
2	618	3	126.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SEMESTER TOTALS			230	127	138	146	138	122	230	145	157	162	187	50	232	110	139	142
	DISCIPLINE TOTALS			357		284		260		375		319		237		342		281	
3	622	3	126.00	58	0	0	90	0	0	90	0	0	66	74	0	0	58	82	0
3	623	3	71.00	56	47	53	0	50	0	0	80*	71	0	0	62	71	0	0	62
3	624	3	226.00	0	0	0	0	0	0	0	0	0	66	0	0	74	0	0	0
	SEMESTER TOTALS			114	47	53	90	50	0	90	80	71	132	74	62	145	58	82	62
	DISCIPLINE TOTALS			161		143		50		170		203		136		203		144	
4	631	3	106.00	46	46	0	0	0	54	86	0	66	0	0	66	54	0	86	0
4	632	3	106.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	633	3	86.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	634	3	156.00	75	0	0	120	0	66	147	0	120	0	0	147	84	0	0	147
	SEMESTER TOTALS			121	46	0	120	0	120	233	0	186	0	0	213	138	0	86	147
	DISCIPLINE TOTALS			167		120		120		233		186		213		138		233	
5	640	3	252.00	116	[illegible]	112	112	176	0	252	0	0	212	172	0	232	0	0	232
5	641	3	102.00	0	[illegible]	0	80	0	76	0	92	0	112*	102	0	0	112*	0	92
5	642	3	102.00	72	0	0	82	0	98	82	0	92	0	0	102	102	0	88	0
5	643	3	101.00	47	0	44	0	0	0	0	71	0	62	50	0	62	0	0	50
	SEMESTER TOTALS			235	84	156	274	176	174	334	163	92	386	324	102	396	112	88	374
	DISCIPLINE TOTALS			319		430		350		497		478		426		508		462	
6	651	3	126.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	652	3	126.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	653	3	346.00	0	0	106	0	0	106	218	0	138	0	0	186	138	0	0	186
6	654	3	101.00	0	0	0	47	65	0	0	71	56	0	0	50	47	0	0	62
6	655	3	101.00	0	0	41	0	0	0	62	0	0	62	56	0	56	0	62	0
	SEMESTER TOTALS			0	0	147	47	65	106	280	71	194	62	56	236	241	0	62	248
	DISCIPLINE TOTALS			0		194		171		351		256		292		241		310	

60 STUDENTS

7	661	3	86.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	662	3	95.00	0	41	53	0	35	0	65	0	0	65	56	0	65	0	0	41	
	SEMESTER TOTALS			0	41	53	0	35	0	65	0	0	65	56	0	65	0	0	41	
	DISCIPLINE TOTALS				41		53		35		65		65		56		65		41	
8	681	3	91.00	0	51	71	0	0	0	101*	0	91	0	0	86	76	0	0	91	
8	682	3	195.00	216*	0	188	0	195	0	244*	0	251*	0	209*	0	174	0	188	0	
8	683	3	247.00	0	269*	0	181	0	236	0	214	0	269*	0	214	0	236	0	192	
8	684	3	91.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	685	3	76.00	0	81*	0	101*	0	96*	181*	0	126*	0	76	0	76	0	116*	0	
8	686	3	126.00	0	106	81	0	101	0	0	126	126	0	0	81	101	0	0	126	
	SEMESTER TOTALS			216	507	340	282	296	332	446	340	594	269	285	381	427	236	304	409	
	DISCIPLINE TOTALS				723		622		628		786		863		666		663		713	
9	691	3	200.00	200	200	0	0	250*	0	0	0	0	0	600*	0	0	0	0	0	
9	692	3	200.00	200	200	0	0	0	0	0	400*	0	0	0	0	0	0	800*	0	
9	693	3	66.00	0	0	66	0	0	0	0	0	0	0	0	66	0	0	0	0	
9	694	3	66.00	0	0	0	0	46	0	0	0	0	0	0	0	0	66	0	0	
	SEMESTER TOTALS			400	400	66	0	296	0	0	400	0	0	600	66	0	66	800	0	
	DISCIPLINE TOTALS				800		66		296		400		0		666		66		800	
10	701	3	126.00	0	78	62	0	0	86	74	0	58	0	0	86	0	70	86	0	
10	702	3	116.00	0	0	0	0	0	0	0	0	0	86	0	0	0	0	0	0	
	SEMESTER TOTALS			0	78	62	0	0	86	74	0	58	86	0	86	0	70	86	0	
	DISCIPLINE TOTALS				78		62		86		74		144		86		70		86	
GRAND TOTALS FOR THE SEMESTERS				5302	5098	3577	2886	4503	3283	6452	3993	4993	3635	6429	3854	5478	2704	5578	4508	
GRAND TOTALS FOR THE YEARS					3338		2092		2608		3515		2962		3302		2868		3382	
CREDIT CONTACT HOUR RATIO				3338 / 30		2092 / 24		2608 / 23		3515 / 28		2962 / 27		3302 / 27		2868 / 29		3382 / 25		
				111.00		87.00		113.00		125.00		109.00		122.00		98.00		135.00		

30 STUDENTS

1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 112.00 for disciplines 1 to 10 incl. = 118.00 for disciplines 1 to 12 incl.

FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE (+)	UNDER AGE (−)	11 THES	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	213	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			2	7*				
					201	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4		260	154				
					103	103	0	0	0	138	0	0	0	0	0	0	0	0	0	0	0	0	0	188			502	916		
					103	103	0	0	0	138	0	0	0	0	0	0	0	0	0	0	0	0			520	-22				
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	142	0	0	96	0	0	0	0	0	0	0	0	0	0	0	0	0	0			2	7*				
					134	0	0	128	36	0	0	0	132	0	0	0	41	0	0	0	0	0	0	330	260	154	450	864		
					128	0	0	128	0	0	0	0	132	0	0	0	0	0	0	0	0	0			520	-22				
3 ASC	12/ ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	102	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0			3	7*				
					0	0	0	42	0	10	0	0	0	0	0	0	0	0	0	0	0	0			390	154				
					0	0	~~260~~ 193	0	~~130~~ 96	~~130~~ 96	0	0	0	0	0	0	0	0	0	0	0	0	0	~~862~~ 521			178	722		
					0	0	~~260~~ 192	0	~~130~~ 96	~~130~~ 96	0	0	0	0	0	0	0	0	0	0	0	0			390	-22				
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	138	0	0	121	0	0	0	0	120	0										2	8*				
					0	76	0	0	0	54	0	0	0	0	120	0	0	0	0	0	0	0			260	176				
					0	182	0	0	286	0	0	0	0	52	0	0	0	411									629	1065		
					0	182	0	0	286	0	0	0	0	52	0										520	-44				
5 AST	12/ ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	34	0	0	97	0	0	0	0	280	0										2	7*				
					0	19	0	0	0	43	0	0	0	0	280	0	0	0	0	0	0	0			260	154				
					0	~~171~~ 115	0	0	~~171~~ 115	~~176~~ 115	0	0	0	~~171~~ 115	~~171~~ 115	0	0	~~186~~ 63									754	1168		
					0	~~171~~ 115	0	0	~~171~~ 115	~~176~~ 115	0	0	0	~~171~~ 115	~~171~~ 115	0									520	-22				
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	24	0	0	0	0	0	0	0	0									0	0				
					0	0	0	0	9	0	0	0	0	0	0	0	0								0	0				
					0	0	0	83	0	0	0	0	0	0	0	0	0	0	0	133							33	33		
					0	0	0	83	0	0	0	0	0	0	0										0	0				
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	0				
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	78					0	0				
					0	0	0	0	0	0	0	49	0	0	0	0	116	0	253								79	79		
					0	0	0	0	0	0	0	49	0	0	0	116									0	0				
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	86	0	0									0	0				
					0	0	0	0	0	0	0	0	0	202	0	0	0								0	0				
					0	0	0	0	0	0	0	0	0	83	0	0	-122	0									288	288		
					0	0	0	0	0	0	0	0	0	83	0	0									0	0				
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	11	0	0	0	0	0	0	43	0	0									0	0				
					0	0	0	4	0	0	0	0	0	101	0	0	0								0	0				
					0	0	56	0	0	0	0	0	0	109	0	0	0	173									159	159		
					0	0	56	0	0	0	0	0	0	109	0	0									0	0				
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	86	0	0									0	0				
					0	0	0	0	0	0	0	0	0	202	0	0	0								0	0				
					0	0	0	0	0	0	0	0	0	83	0	0	-122	0									288	288		
					0	0	0	0	0	0	0	0	0	83	0	0									0	0				
TOTAL REQUIRED					335	126	46	45	107	0	41	505	400	78	2636															

Total 5054.8 hours

1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976

FACULTY OVERAGE/UNDERAGE REPORT

NOTE: CREDIT CONTACT RATIO = 87.00 for disciplines 1 to 10 incl. = 105.00 for disciplines 1 to 12 incl.

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER 1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE (+)	UNDER AGE (-)	11 THES	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS	690 + 699
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	70	34	0	0	0	58	0	0	0	0											2	5					
					0	36	0	0	0	0	18	0	0	0	0	0									260	110	216	586			
					103	103	0	0	0	138	0	0	0	0																	
					103	103	0	0	0	138	0	0	0	0											520	22					
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	47	0	0	0	0	0	53	0	0	0											2	5					
					0	0	0	96	0	0	0	0	0	0	0	0									260	110	197	567			
					128	0	0	128	0	0	132	0	0	0																	
					128	0	0	128	0	0	132	0	0	0											520	22					
3 ASC	~~14/~~ 12 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	47	0	15	73	0	0	0	0											3	6					
					0	0	81	0	27	23	0	0	0	0											390	132	266	788			
					0	0	~~260~~ 143	0	~~130~~ 86	~~130~~ 86	0	0	0	0	0	~~774~~ 424									390	0					
					0	0	260 172	0	~~130~~ 86	~~130~~ 86	0	0	0	0																	
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	82	0	0	78	0	0	0	19	0											2	5					
					0	87	0	0	137	0	0	0	0	0	0										260	110	403	773			
					0	182	0	0	286	0	0	0	52	0	0	637															
					0	182	0	0	286	0	0	0	52	0											520	22					
5 AST	~~14/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	20	0	0	62	0	0	0	46	0											2	5					
					0	21	0	0	109	0	0	0	0	0	0	~~781~~ 432									260	110	259	629			
					0	~~171~~ 115 ~~171~~ 115	0	0	~~176~~ 115 ~~176~~ 115	0	0	0	~~171~~ 115 ~~171~~ 115	0											520	22					
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	0											0	0					
					0	0	0	0	24	0	0	0	0	0	0	142									0	0	24	24			
					0	0	0	83	0	0	0	0	0	0																	
					0	0	0	83	0	0	0	0	0	0											0	0					
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	14	0	0	0	62											0	0					
					0	0	0	0	0	4	0	0	0	0	0										0	0					
					0	0	0	0	0	49	0	0	0	116	0	251											81	81			
					0	0	0	0	0	49	0	0	0	116											0	0					
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	136	0	0											0	0					
					0	0	0	0	0	0	0	112	0	0											0	0					
					0	0	0	0	0	0	0	83	0	0	-82	0											248	248			
					0	0	0	0	0	0	0	83	0	0											0	0					
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	5	0	0	0	0	68	0	0											0	0					
					0	0	9	0	0	0	0	56	0	0											0	0					
					0	0	56	0	0	0	0	109	0	0	0	194											138	138			
					0	0	56	0	0	0	0	109	0	0											0	0					
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	136	0	0											0	0					
					0	0	0	0	0	0	0	112	0	0											0	0					
					0	0	0	0	0	0	0	83	0	0	-82	0											248	248			
					0	0	0	0	0	0	0	83	0	0											0	0					
TOTAL REQUIRED					335	270	136	165	380	45	41	785	400	78	6472																

Total 50548 hours

1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 113.00 for disciplines 1 to 10 incl. = 122.00 for disciplines 11 to 12 incl.

FACULTY CODE & RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER 1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE	UNDER AGE	11 THES	12 INTN	CUM INSTR HOURS	CUR SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	237	34	0	0	0	26	0	0	0	0							4	7*								
					129	30	0	0	0	42	0	0	0	0							520	154								
					103	103	0	0	0	138	0	0	0	0										192			498	1172		
					103	103	0	0	0	138	0	0	0	0							260	-22								
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	158	0	0	0	0	0	35	0	0	0							4	8*								
					86	0	0	96	0	0	0	0	0	0							520	176								
					128	0	0	128	0	0	132	0	0	0										404			376	1072		
					128	0	0	128	0	0	132	0	0	0							260	-44								
3 ASC	~~18/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	45	0	17	32	0	0	0	0							6	7*								
					0	0	0	0	0	17	53	0	0	0							780	154								
					0	0	~~263~~ 193 ~~260~~ 112	0	~~130~~ 36 ~~130~~ 36	~~130~~ 36 ~~130~~ 36	0	0	0	0							0	0		~~876~~ 526			164	1098		
					0	0	0	0	0	0	0	0	0	0							0	-22								
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	82	0	0	88	0	0	0	88	0							4	8*								
					0	73	0	0	87	0	0	0	0	0							520	176								
					0	182	0	0	286	0	0	0	52	0										622			418	1114		
					0	182	0	0	286	0	0	0	52	0							260	-44								
5 AST	~~18/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	20	0	0	70	0	0	0	207	0							4	7*								
					0	18	0	0	69	0	0	0	0	0							520	154								
					0	~~171~~ 115 ~~171~~ 115	0	0	~~176~~ 115 ~~176~~ 115	0	0	0	~~171~~ 115 ~~171~~ 115	0										~~655~~ 306			385	1059		
																					260	-22								
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	0							0	0								
					0	0	0	0	24	0	0	0	0	0							0	0								
					0	0	0	83	0	0	0	0	0	0										142			24	24		
					0	0	0	83	0	0	0	0	0	0							0	0								
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	6	0	0	0	0							0	0*								
					0	0	0	0	0	0	10	0	0	0							0	0								
					0	0	0	0	0	49	0	0	0	0							116			229			103	103		
					0	0	0	0	0	0	49	0	0	0							8	116								
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	118	0							0	0								
					0	0	0	0	0	0	0	0	132	0							0	0								
					0	0	0	0	0	0	0	0	83	0									-84	0			250	250		
					0	0	0	0	0	0	0	0	83	0							0	0								
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	5	0	0	0	0	0	59	0							0	0								
					0	0	0	0	0	0	0	0	66	0							0	0								
					0	0	56	0	0	0	0	0	109	0							0			202			130	130		
					0	0	56	0	0	0	0	0	109	0							0	0								
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	118	0							0	0								
					0	0	0	0	0	0	0	0	132	0							0	0								
					0	0	0	0	0	0	0	0	83	0									-84	0			250	250		
					0	0	0	0	0	0	0	0	83	0							0	0								
TOTAL REQ					550	391	136	285	553	150	41	1115	400	164										9794						

Total 5054.8 hours

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 110.00 for disciplines 1 to 10 incl. = 120.00 for disciplines 1 to 12 incl

FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER ABE	UNDER AGE	11 THES	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS (690+ / 699)
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	166	54	0	0	0	81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	175		4 520 260	7* 154 -22	515	1189
					157 103	35 103	0	0	0	138	0	0	0	22	0	0	0	0	0	0	0	0	0	0						
					103	103	0	0	0	138	0	0	0	138	0	0	0	0	0	0	0	0	0	0						
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	111	0	0	134	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	380		4 520 260	8* 176 -44	400	1096
					104 128	0	0	0 128	0	0	0	0	132	0	0	0	0	0	0	0	0	0	0	0						
					128	0	0	128	0	0	0	0	132	0	0	0	0	0	0	0	0	0	0	0						
3 ASC	12 ~~19~~/ ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	66	0	25	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0			4 520 260	7* 154 -22	295	969
					0	0	0 ~~260~~ 195	61	0	13 ~~130~~ 96	0	28 ~~130~~ 96	0	0	0	0	0	0	0	0	0	0	0	0	0	~~765~~ ~~395~~				
					0	0	0 ~~260~~ 172	0	0	~~130~~ 96	0	~~130~~ 96	0	0	0	0	0	0	0	0	0	0	0	0						
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	129	0	0	128	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			4 520 260	8* 176 -44	530	1226
					0	84	0	0	69	0	0	0	0	120	0	0	0	0	0	0	0	0	0	0						
					0	182	0	0	286	0	0	0	0	52	0	0	0	0	0	0	0	0	0	0	510					
					0	182	0	0	286	0	0	0	0	52	0	0	0	0	0	0	0	0	0	0						
5 AST	12 ~~18~~/ ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	32	0	0	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			4 520 260	7* 154 -22	491	1165
					0	21	0	0	55	0	0	0	0	280	0	0	0	0	0	0	0	0	0	0	0	~~549~~ 200				
					0 ~~171~~ 115	~~171~~ 115	0	0	~~176~~ 115	~~176~~ 115	0	0	0	0	0	0	0	0 ~~171~~ 115	~~171~~ 115	0	0	0	0						
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	133		0 0	0 0	33	33
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
					0	0	0	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	20	0	0	0	86													0 0	0 0	112	112
					0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	220					
					0	0	0	0	0	49	0	0	0	116																
					0	0	0	0	0	49	0	0	0	0	116															
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	142	0	0											0 0	0 0	279	279
					0	0	0	0	0	0	0	0	0	137	0	0	0													
					0	0	0	0	0	0	0	0	0	83	0	0	-113	0												
					0	0	0	0	0	0	0	0	0	83	0	0	0													
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	7	0	0	0	0	0	0	71	0	0											0 0	0 0	152	152
					0	0	6	0	0	0	0	0	0	68	0	0														
					0	0	56	0	0	0	0	0	0	109	0	0	0	0	180											
					0	0	56	0	0	0	0	0	0	109	0	0	0													
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	142	0	0											0 0	0 0	279	279
					0	0	0	0	0	0	0	0	0	137	0	0	0													
					0	0	0	0	0	0	0	0	0	83	0	0	-113	0												
					0	0	0	0	0	0	0	0	0	83	0	0	0													
TOTAL REQUIRED					811	531	203	285	690	205	41	1457	800	164	12686															

Total 5054.8 hours

1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 97.00 for disciplines 1 to 10 incl
= 113.00 for disciplines 11 to 12 incl.

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER 1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE	UNDER AGE	11 THES	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	175	44	0	0	0	61	0	0	0	0	4		4	7*												
					111	27	0	0	0	22	0	0	0	0			520	154												
					103	103	0	0	0	138	0	0	0	0		0	250										440	1114		
					103	103	0	0	0	138	0	0	0	0			260	-22												
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	116	0	0	110	0	0	0	0	0	0			4	8*												
					74	0	0	0	0	0	0	53	0	0			520	176												
					128	0	0	128	0	0	132	0	0	0		0	426										354	1050		
					128	0	0	128	0	0	132	0	0	0			260	-44												
3 ASC	~~18/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	50	0	8	76	0	0	0	0			4	7*												
					0	0	111	0	31	28	0	0	0	0			520	154												
					0	0	~~209~~ 193	0	~~130~~ 86	~~139~~ 86	~~139~~ 86	0	0	0		0	~~426~~ 386										304	978		
					0	0	~~260~~ 192	0	~~139~~ 86	~~139~~ 86	0	0	0	0			260	-22												
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	106	0	0	41	0	0	0	0	0			4	8*												
					0	66	0	0	157	0	0	0	0	0			520	176												
					0	182	0	0	286	0	0	0	52	0		0	670										370	1066		
					0	182	0	0	286	0	0	0	52	0			260	-44												
*5 AST	~~18/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	26	0	0	32	0	0	0	0	0			4	7*												
					0	16	0	0	125	0	0	0	0	0			520	154												
					0	~~171~~ 115 ~~171~~ 115	0	0	~~176~~ 112 ~~176~~ 112	0	0	0	~~171~~ 115 ~~171~~ 115	0		0	~~840~~ 491										200	874		
					0												260	-22												
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	27	0	0	0	0	0	0			0	0												
					0	0	0	0	0	0	0	0	0	0			0	0												
					0	0	0	83	0	0	0	0	0	0		0	139										27	27		
					0	0	0	83	0	0	0	0	0	0			0	0												
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	15	0	0	0	86			0	0												
					0	0	0	0	0	5	0	0	0	71			0	0												
					0	0	0	0	0	49	0	0	0	116		0	154										178	178		
					0	0	0	0	0	49	0	0	0	116			0	0												
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	193	0	0			0	0												
					0	0	0	0	0	0	0	0	94	0		0	0													
					0	0	0	0	0	0	0	83	0	0		-121	0										287	287		
					0	0	0	0	0	0	0	83	0	0			0	0												
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	5	0	0	0	0	96	0	0			0	0												
					0	0	12	0	0	0	0	47	0	0			0	0												
					0	0	56	0	0	0	0	109	0	0		0	172										160	160		
					0	0	56	0	0	0	0	109	0	0			0	0												
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	193	0	0			0	0												
					0	0	0	0	0	0	0	94	0	0		0	0										287	287		
					0	0	0	0	0	0	0	83	0	0		-121	0													
					0	0	0	0	0	0	0	83	0	0			0	0												

Total 5054.8 hours.

TOTAL REQU 124 908 564 138 1687 760

TOTAL AVAILABILITY 996 640 326 285 1003 260 94 1692 800 235 16073

CONCORDIA UNIVERSITY COMPUTER CENTER

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1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 103.00 for disciplines 1 to 10 incl. = 117.00 for disciplines 10 to 12 incl

FACULTY CODE #	RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE	UNDER AGE	11 THES	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS
1	ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	189	45	0	0	0	16	0	0	0	0											4	76				
						104	10	0	0	0	80	0	0	0	0											520	154				
						103	103	0	0	8	138	0	0	0	0											0	246			444	1118
						103	103	0	0	0	138	0	0	0	0											260	-22				
2	ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	126	0	0	0	0	0	44	0	0	0											4	80				
						69	0	0	142	0	0	0	0	0	0											520	176				
						128	0	0	128	0	0	132	0	0	0											0	398			382	1878
						128	0	0	128	0	0	132	0	0	0											260	-44				
3	ASC	~~14/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	59	0	29	20	0	0	0	0											4	76				
						0	0	0	45	0	7	100	0	0	0											520	154				
						0	0	~~243~~ 113	~~260~~ 172	0	~~130~~ 26	~~130~~ 86	~~130~~ 36	0	0											0	~~700~~ 427			260	934
						0	0	0		0				0	0											260	-22				
4	AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	109	0	0	145	0	0	0	120	0											4	80				
						0	25	0	0	36	0	0	0	16	0											520	176				
						0	182	0	0	286	0	0	0	52	0											0	589			451	1147
						0	182	0	0	286	0	0	0	52	0											260	-44				
5	AST	~~18/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	27	0	0	116	0	0	0	280	0											4	76				
						0	6	0	0	0	28	0	0	0	0	39	0									520	154				
						0	~~171~~ 115	0	0	~~170~~ 115	~~176~~ 115	0	0	0	~~171~~ 115	~~171~~ 116	0									0	~~643~~ 194			497	1171
						0	115																			260	-22				
20	LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	0											0	0				
						0	0	0	35	0	0	0	0	0	0											0	0				
						0	0	0	83	0	0	0	0	0	0											0	131			35	35
						0	0	0	83	0	0	0	0	0	0											0	0				
21	LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	4	0	0	0	0											0	0				
						0	0	0	0	0	20	0	0	0	70											0	0				
						0	0	0	0	0	49	0	0	0	116											0	237			95	95
						0	0	0	0	0	49	0	0	0	116											0	0				
22	LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	115	0	0											0	0				
						0	0	0	0	0	0	0	0	127	0	0															
						0	0	0	0	0	0	0	0	83	0	0	-76	0												242	242
						0	0	0	0	0	0	0	0	83	0	0										0	0				
23	LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	6	0	0	0	0	57	0	0											0	0				
						0	0	5	0	0	0	0	63	0	0											0	0				
						0	0	56	0	0	0	0	109	0	0	0	281													131	131
						0	0	56	0	0	0	0	109	0	0											0	0				
24	LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	115	0	0											0	0				
						0	0	0	0	0	0	0	127	0	0																
						0	0	0	0	0	0	0	83	0	0	-76	0													242	242
						0	0	0	0	0	0	0	83	0	0											0	0				
TOTAL REQUIRED						1169	681	376	462	1074	460	94	2009	855	305	19198															
TOTAL AVAILABILITY						486	808	497	414	1148	428	248	543	440	238																

Total 5054.8 hours

30

1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 85.00 for disciplines 1 to 10 incl
= 126.00 for disciplines 11 to 12 incl

690 +
699

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER 1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE	UNDER AGE	11 THES	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/	6/	6/		145	53		0		0		88		0		0		0		0							4	7*		
	690.0	780.0	132.0	1602	145	34		0		0		0		0		0		0		0		0		4			520	154		
					103	103		0		0		138		0		0		0		0		0		0		225			465	1139
					103	103		0		0		138		0		0		0		0		0					260	-22		
2 ASC	15/	6/	6/		96		0		0		89		0		0		41		0		0		0				4	8*		
	780.0	780.0	132.0	1692		96		0		0		0		0		0		0		0		0					520	176		
					128		0		0		128		0		0		132		0		0		0		0	457			323	1019
					128		0		0		128		0		0		132		0		0		0				260	-44		
3 ASC	~~18/~~ 12	6/	6/		0		0		101		0		32		110		0		0		0		0				4	7*		
	~~1040.0~~ 690.0	780.0	132.0	~~1952~~ 1602	0		0		37		0		10		0		0		0		0		0				520	154		
					0		0		~~260~~ 135 260 172		0		~~130~~ ~~130~~ ~~130~~ 26		~~130~~ 26		0		0		0		0		0	~~760~~ 400	260	-22	290	964
4 AST	18/	6/	6/		0	127		0		163		0		0		0		0		0							4	8*		
	1040.0	780.0	132.0	1952	0		82		0		0		51		0		0		0		17		0				520	176		
					0	182		0		0		286		0		0		0		52		0		0		600			440	1136
					0	182		0		0		286		0		0		0		52		0					260	-44		
5 AST	~~18/~~ 12	6/	6/		0	31		0		0		130		0		0		0		0		0					4	7*		
	~~1040.0~~ 690.0	780.0	132.0	~~1952~~ 1602	0		20		0		0		40		0		0		0		40		0				520	154		
					0	~~171~~ 115	~~171~~ 115		0		0	~~174~~ 115	~~176~~ 115		0		0		0	~~172~~ 115	~~171~~ 115		0		0	~~770~~ 429	260	-22	262	936
20 LEC	3/	0/	0/		0		0		0		22		0		0		0		0		0		0				0	0		
	166.4	0.0	0.0	166		0		0		0		0		0		0		0		0		0					0	0		
					0		0		0		83		0		0		0		0		0		0		0	144			22	22
					0		0		0		83		0		0		0		0		0		0				0	0		
21 LEC	6/	0/	0/		0		0		0		0		0		22		0		0		0		0				0	0		
	332.8	0.0	0.0	332		0		0		0		0		0		0		0		0		62					0	0		
					0		0		0		0		0		49		0		0		116		0		0	247			85	85
					0		0		0		0		0		49		0		0		0	116					0	0		
22 LEC	3/	0/	0/		0		0		0		0		0		0		0		141		0		0				0	0		
	166.4	0.0	0.0	166		0		0		0		0		0		0		0		85		0		0			0	0		
					0		0		0		0		0		0		0		0		83		0		-60	0			226	226
					0		0		0		0		0		0		0		0		83		0				0	0		
23 LEC	6/	0/	0/		0		0		11		0		0		0		0		70		0		0				0	0		
	332.8	0.0	0.0	332		0		0		4		0		0		0		0		42		0		0			0	0		
					0		0		56		0		0		0		0		109		0		0		0	205			127	127
					0		0		56		0		0		0		0		109		0		0				0	0		
24 LEC	3/	0/	0/		0		0		0		0		0		0		0		141		0		0				0	0		
	166.4	0.0	0.0	166		0		0		0		0		0		0		0		85		0		0			0	0		
					0		0		0		0		0		0		0		0		83		0		-60	0			226	226
					0		0		0		0		0		0		0		0		83		0				0	0		
TOTAL REQUIRED					435		1523		824		223		2326		1160															
TOTAL AVAILABILITY					1410		817		417		462		1175		460		94		2221		912		367				22604			

Total 5054.8 hours

30

1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 112.00 for disciplines 1 to 10 incl
= 122.00 for disciplines 1 to 12 incl

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER 1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE	UNDER AGE	11 THES	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/	6/	6/		99		27		0		0		0		0		0		0		0		0		4		4	7*		
	690.0	780.0	132.0	1602		46		45		0		0		0		78		0		0		0		0			520	154		
					103		103		0		0		0		138		0		0		0		0		0	395			295	969
						103		103		0		0		0		138		0		0		0		0			260	-22		
2 ASC	15/	6/	6/		66		0		0		52		0		0		0		0		0		0				4	8*		
	780.0	780.0	132.0	1692		31		0		0		96		0		0		50		0		0		0			520	176		
					128		0		0		128		0		0		132		0		0		0		0	484			296	992
						128		0		0		128		0		0		132		0		0		0			260	-44		
3 ASC	~~18/~~ 12	6/	6/		0		0		52		0		9		0		0		0		0		0				4	7*		
	~~1040.0~~ 690.0	780.0	132.0	~~1952~~ 1602		0		0		34		0		34		97		0		0		0		0			520	154		
					0		0		~~260~~ 172		0		~~130~~ 86		~~130~~ 86		0		0		0		0		0	~~814~~ 464			226	900
						0		0		~~260~~ 172		0		~~130~~ 86		~~130~~ 86		0		0		0		0			260	-22		
4 AST	18/	6/	6/		0		66		0		0		46		0		0		0		120		0				4	8*		
	1040.0	780.0	132.0	1952		0		109		0		0		174		0		0		0		0		0			520	176		
					0		182		0		0		286		0		0		0		52		0		0	525			515	1211
						0		182		0		0		286		0		0		0		52		0			260	-44		
5 AST	~~18/~~ 12	6/	6/		0		16		0		0		36		0		0		0		280		0				4	7*		
	~~1040.0~~ 690.0	780.0	132.0	~~1952~~ 1602		0		27		0		0		139		0		0		0		0		0			520	154		
					0		~~171~~ 115		0		0		~~176~~ 115		0		0		0		~~171~~ 115		0		0	~~341~~ 192			499	1173
						0		~~171~~ 115		0		0		~~176~~ 115		0		0		0		~~171~~ 115		0			260	-22		
20 LEC	3/	0/	0/		0		0		0		13		0		0		0		0		0		0				0	0		
	166.4	0.0	0.0	166		0		0		0		24		0		0		0		0		0		0		0	129			
					0		0		0		83		0		0		0		0		0		0					0	37	37
						0		0		0		83		0		0		0		0		0		0				0		
21 LEC	6/	0/	0/		0		0		0		0		0		0		0		0		0		66				0	0		
	332.8	0.0	0.0	332		0		0		0		0		0		19		0		0		0		0			0	0		
					0		0		0		0		0		49		0		0		0		116		0	246			86	86
						0		0		0		0		0		49		0		0		0		116			0	0		
22 LEC	3/	0/	0/		0		0		0		0		0		0		0		0		116		0				0	0		
	166.4	0.0	0.0	166		0		0		0		0		0		0		0		0		178		0			0	0		
					0		0		0		0		0		0		0		0		83		0		0	-128			294	294
						0		0		0		0		0		0		0		0		83		0			0	0		
23 LEC	6/	0/	0/		0		0		5		0		0		0		0		0		58		0				0	0		
	332.8	0.0	0.0	332		0		0		3		0		0		0		0		0		89		0			0	0		
					0		0		56		0		0		0		0		0		109		0		0	177			155	155
						0		0		56		0		0		0		0		0		109		0			0	0		
24 LEC	3/	0/	0/		0		0		0		0		0		0		0		0		116		0				0	0		
	166.4	0.0	0.0	166		0		0		0		0		0		0		0		0		178		0			0	0		
					0		0		0		0		0		0		0		0		83		0		0	-128			294	294
						0		0		0		0		0		0		0		0		83		0			0	0		
TOTAL REQUIRED							1100		1614		824		223		2616		1560													
TOTAL AVAILABILITY							1487		998		454		582		1522		654		144		2666		912		367		25915			

Total 5054.8 hours

CONCORDIA UNIVERSITY COMPUTER CENTER

MAXIMUM

1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 135.00 for disciplines 1 to 10; = 133.00 for disciplines 11 to 12

690 + 699

FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	1 F W	2 F W	3 F W	4 F W	5 F W	6 F W	7 F W	8 F W	9 F W	10 F W	OVER AGE (+)	UNDER AGE (-)	11 & 12 THES INTN	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	181	75	0	0	0	0	0	0	0	0			7* 910	7* 154	
					181	50	0	0	0	0	0	0	0	0	0	203	-130	-22	487 1551
					103	103	0	0	0	138	0	0	0	0					
					103	103	0	0	0	138	0	0	0	0					
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	120	0	0	209	0	0	0	0	0	0			7* 910	7* 154	
					120	0	0	84	0	0	95	0	0	0	0	151	-130	-22	629 1693
					128	0	0	128	0	0	132	0	0	0					
					128	0	0	128	0	0	132	0	0	0					
3 ASC	~~15/~~ ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	177	0	45	0	0	0	0	0			7* 910	7* 154	
					0	0	~~260~~ 173	0	~~130~~ 26	~~130~~ 130	0	0	0	0	0	~~745~~ 395	-130	-22	295 1359
					0	0	260 172	0	130 26	130 66	0	0	0	0					
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	181	0	0	227	0	0	0	120	0			8* 1040	8* 176	
					0	121	0	0	51	0	0	0	120	0	0	220	-260	-44	820 2036
					0	182	0	0	286	0	0	0	52	0					
					0	182	0	0	286	0	0	0	52	0					
5 AST	~~18/~~ ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	45	0	0	182	0	0	0	280	0			7* 910	7* 154	
					0	30	0	0	40	0	0	0	280	0	0	~~182~~ 167	-130	-22	858 1922
					0	~~171~~ 115	0	0	~~176~~ 115	0	0	0	~~171~~ 115	0					
					0	171 115	0	0	176 115	0	0	0	171 115	0					
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	52	0	0	0	0	0	0			0 0	0 0	
					0	0	0	21	0	0	0	0	0	0	0	93			73 73
					0	0	0	83	0	0	0	0	0	0					
					0	0	0	83	0	0	0	0	0	0					
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	0	0	0	0	0			0 0	0 0	
					0	0	0	0	0	0	0	0	0	126	0	205			127 127
					0	0	0	0	0	49	0	0	0	116					
					0	0	0	0	0	49	0	0	0	116					
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	78	0	0			0 0	0 0	
					0	0	0	0	0	0	0	216	0	0	-128	0			294 294
					0	0	0	0	0	0	0	83	0	0					
					0	0	0	0	0	0	0	83	0	0					
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	19	0	0	0	0	39	0	0			0 0	0 0	
					0	0	7	0	0	0	0	108	0	0	0	159			173 173
					0	0	56	0	0	0	0	109	0	0					
					0	0	56	0	0	0	0	109	0	0					
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	78	0	0			0 0	0 0	
					0	0	0	0	0	0	0	216	0	0	-128	0			294 294
					0	0	0	0	0	0	0	83	0	0					
					0	0	0	0	0	0	0	83	0	0					

Total 5054.8 hours

TOTAL REQU 301 201 70 105 101 0 95 540 400 126 1958

TOTAL AVAILABILITY 232 487 316 211 882 317 132 229 823 116

Max

1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 136.00 for disciplines 1 to 10; 153.00 for disciplines 1 to 12

FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER

FACULTY CODE. # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE (+)	UNDER AGE (-)	11 THES INTY (T=30)	12 THES INTY (T=30)	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	75	0	56	50	0	0	0	0	0	178	40	0	0	0	0	0	0	0	0	0		0 291	7* 910 -130	7* 154 -22	399	1463
					103	103	103	103	0	0	0	0	0	138	138	0	0	0	0	0	0	0	0	0						
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	50	0	0	0	0	124	0	0	0	0	95	0	0	0	0	0	0	0	0	0		0 510	7* 910 -130	7* 154 -22	270	1334
					128	128	0	0	128	128	0	0	0	0	132	132	0	0	0	0	0	0	0	0						
3 ASC	~~18~~ 12 ~~1640.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	0	0	63	0	35	223	0	0	50	0	0	0	0	0	0	0	0	0		0 ~~511~~ 361	7* 910 -130	7* 154 -22	529	1593
					0	0	~~260~~ 112	~~260~~ 172	113	0	45	~~130~~ 76	~~130~~ 86	~~130~~ 86																
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	0	136	121	0	0	176	228	0	0	0	0	0	19	0	0	0	0	0	0		0 360	8* 1040 -260	8* 176 -44	680	1896
					0	0	182	182	0	0	286	286	0	0	0	0	0	52	0	0	0	0	0	0						
5 AST	~~18~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	34	30	0	0	141	182	0	0	0	0	0	46	0	0	0	0	0	0		0 ~~606~~ 257	7* 910 -130	7* 154 -22	434	1498
					0	0	~~171~~ 112	~~171~~ 116	0	0	~~171~~ 115	~~176~~ 116	0	0	0	0	0	~~171~~ 116	0	~~171~~ 115	0	0	0	0						
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0 135	0 0	0 0	31	31
					0	0	0	0	0	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	0	0	44	0	10	0	0	0	0	0	126	0	0	0	0		0 151	0 0	0 0	181	181
					0	0	0	0	0	0	0	49	0	49	0	0	0	0	0	116	0	0	0	0						
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	0	0	164	0	0	0	129	0	0					0 0	0 0	293	293
					0	0	0	0	0	0	0	0	0	0	0	83	0	0	0	83	0	0	-127	0						
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	7	12	0	0	0	0	0	82	0	64	0	0							0 0	0 0	165	165
					0	0	0	0	56	56	0	0	0	0	0	109	0	109	0	0										
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	156	0	0	0	0	0	0	0	0	0	0	0	164	0	0	0	129	0	0					0 0	0 0	293	293
					0	0	0	0	0	0	0	0	0	0	0	83	0	0	0	83	0	0	-127	0						
TOTAL REQUIRED					301	402	195	260	556	100	95	862	400	126	4689															

Total 5054.8 hours

Max

1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 142.00 for disciplines 1 to 10
135.00 for disciplines 1 to 12

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER 1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE (+)	UNDER AGE (-)	11 THES	11 INTN	12 THES	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	181	105	56	50	0	0	0	0	0	138	40	138	0	0	0	0	0	0	0	0	0	120	910 -110	154 -22					570	1634
					103	103	103	103	0	0	0	0	0	138	0	138	0	0	0	0	0	0	0	0										
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	120	70	0	0	0	0	209	0	0	0	95	0	0	0	0	0	0	0	0	0	0	285	910 -110	154 -22					495	1559
					128	128	0	0	0	0	128	128	0	0	132	132	0	0	0	0	0	0	0	0										
3 ASC	12 ~~18/~~ ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	0	0	63	0	0	0	25	20	50	173	0	0	0	0	0	0	0	0	0	~~709~~ 309	910 -110	154 -22					331	1395
					0	0	0	0	~~200~~ 173	0	~~130~~ 86	~~130~~ 86	0	0	~~130~~ 86	~~130~~ 86	0	0	0	0	0	0	0	0										
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	136	0	0	0	0	126	0	0	102	0	0	0	0	0	79	0	0	0	0	0	476	1040 -260	176 -44					564	1780
					0	182	0	121	0	0	286	0	0	286	0	0	0	0	0	52	0	0	0	0										
5 AST	12 ~~18/~~ ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	34	0	0	0	0	100	0	0	81	0	0	0	0	0	186	0	0	0	0	0	~~400~~ 259	910 -110	154 -22					432	1496
					0	0	0	0	0	0	~~176~~ 115	~~176~~ 115	0	0	~~176~~ 115	~~176~~ 115	0	0	0	~~171~~ 115	~~171~~ 115	~~171~~ 115	0	0										
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	0	0					52	52
					0	0	0	0	0	0	52	83	0	0	0	0	0	0	0	0	0	0	0	0										
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	0	0	0	0	0	10	49	0	0	0	0	0	0	0	0	0	161	0	0					171	171
					0	0	0	0	0	0	0	0	0	0	34	49	0	0	0	0	0	116	0	116										
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	128	0	0	0	0	0	0	0	0	0					257	257
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	83	129	0	0	0	0	-91	0								
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	7	0	0	0	0	0	0	0	0	0	0	0	64	0	0	0	0	0	0	0	0	0					135	135
					0	0	56	0	0	0	0	0	0	0	0	0	0	0	109	0	0	0	0	0	0	197								
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	128	0	0	0	0	0	0	0	0	0					257	257
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	83	129	0	0	0	0	-91	0								
TOTAL REQ					476	603	195	521	759	445	95	1184	400	252	7359																			

Total 5054.8 hours

690+
699

Max

1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 136.00 for disciplines 1 to 10
= 135.00 for disciplines 1 to 12 } 690 / 699

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER 1 F W	2 F W	3 F W	4 F W	5 F W	6 F W	7 F W	8 F W	9 F W	10 F W	OVER AGE (+)	UNDER AGE (-)	11 THES INTY	12 THES INTY	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	181 181 / 103 103	69 56 / 103 103	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	178 40 / 138 138	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	-15	0	910 -130	154 -22	705	1769
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	120 128 / 128 128	0 0 / 0 0	0 0 / 0 0	209 128 / 128 128	0 0 / 0 0	0 95 / 0 132	0 0 / 0 132	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0	235	910 -130	154 -22	545	1609
3 ASC	~~18/~~ 12 1040.0 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0 0 / 0 0	0 0 / 0 0	113 ~~260~~ 173 / 260 132	0 63 / 0	35 ~~130~~ 86 / ~~130~~ 86	223 20 / 130 86	0 50 / 0	0 0 / 0	0 0 / 0	0 0 / 0	0	~~636~~ 86	910 -130	154 -22	504	1568
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0 0 / 0 0	166 136 / 182 182	0 0 / 0 0	0 0 / 0 0	177 101 / 286 286	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 60 / 52 52	0 0 / 0 0	0	400	80 1040 -260	80 176 -44	640	1856
5 AST	~~18/~~ 12 1040.0 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0 0 / 0 0	41 34 / ~~176~~ 115 ~~171~~ 115	0 0 / 0 0	0 0 / 0 0	141 81 / ~~176~~ 115 ~~176~~ 115	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 140 / ~~171~~ 115 ~~171~~ 115	0 0 / 0 0	0	~~602~~ -253	910 -130	154 -22	438	1502
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	52 83 / 83 83	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0	114	0 0	0 0	52	52
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	44 49 / 49 49	0 10 / 0 0	0 0 / 0 0	0 0 / 0 0	126 116 / 116 116	0	151	0 0	0 0	181	181
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	144 83 / 83 83	0 149 / 0 83	0 0 / 0 0	-127	0	0 0	0 0	293	293
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0 0 / 0 0	0 0 / 0 0	12 7 / 56 56	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	72 74 / 109 109	0 0 / 0 0	0 0 / 0 0	0	167	0 0	0 0	165	165
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	0 0 / 0 0	144 83 / 83 83	0 149 / 0 83	0 0 / 0 0	-127	0	0 0	0 0	293	293
TOTAL REQUIRED					722	1410	990	285	1285	730	0	0	0	0			0	0		
TOTAL AVAILABILITY					777	829	265	521	961	545	95	1556	600	252			9564			

Total 5054.8 hours

Max

1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 139.00 for disciplines 1 to 10
134.00 for disciplines 1 to 12

690+
699

FACULTY CODE # RANK | INSTRUC CREDIT CONTACT | THESIS CREDIT CONTACT | INTERN CREDIT CONTACT | TOTAL HOURS | FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER 1 F W, 2 F W, 3 F W, 4 F W, 5 F W, 6 F W, 7 F W, 8 F W, 9 F W, 10 F W | OVER AGE (+) | UNDER AGE (-) | 11 THES INTN (T=30) | 12 | CUM INSTR HOURS | CUM SUPER HOURS

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE (+)	UNDER AGE (-)	11 THES INTN (T=30)	12	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	181	105	56	50	0	0	0	0	0	178	40	0	0	0	0	0	0	0	0	0	0	80	910	154	610	1674
					103	103	103	103	0	0	0	0	0	138	138	0	0	0	0	0	0	0	0	0			-130	-22		
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	120	70	0	0	0	0	209	0	0	0	0	95	0	0	0	0	0	0	0	0	0	285	910	154	495	1559
					128	128	0	0	0	0	128	128	0	0	0	132	132	0	0	0	0	0	0	0			-130	-22		
3 ASC	~~19/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	0	0	63	316	0	0	10	45	223	50	0	0	0	0	0	0	0	0	0	~~333~~ -17	910	154	707	1771
					0	0	0	0	~~260~~ 132	~~260~~ 132	0	0	~~130~~ 56	~~130~~ 56	~~130~~ 66	~~130~~ 66	0	0	0	0	0	0	0	0			-130	-22		
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	0	136	121	0	0	0	0	31	227	0	0	0	0	0	52	0	0	0	0	0	505	1040	176	535	1751
					0	0	182	182	0	0	0	0	286	286	0	0	0	0	52	0							-260	-44		
5 AST	~~19/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	34	30	0	0	0	0	40	182	0	0	0	0	0	0	0	0	0	0	0	~~753~~ 404	910	154	287	1351
					0	0	~~171~~ 112	~~171~~ 112	0	0	0	0	~~176~~ 112	~~176~~ 112	0	0	0	0	~~171~~ 112	~~171~~ 112							-130	-22		
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	52	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	52	52
					0	0	0	0	0	0	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	0	0		
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	0	0	0	0	44	10	0	0	0	0	0	126	116					0	0	297	297
					0	0	0	0	0	0	0	0	0	49	49	0	0	0	0	0	116	116			0	35	0	0		
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	0	0	0	195	98	0	0							0	0	293	293
					0	0	0	0	0	0	0	0	0	0	0	0	83	83	0	0					-127	0	0	0		
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	7	35	0	0	0	0	0	0	97	49	0	0							0	0	188	188
					0	0	0	0	56	56	0	0	0	0	0	0	109	109	0	0					0	144	0	0		
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	0	0	0	195	98	0	0							0	0	293	293
					0	0	0	0	0	0	0	0	0	0	0	0	83	83	0	0					-127	0	0	0		

Total 5054.8 hours

TOTAL REQUIREMENTS 1183 1511 1435 285 1772 730

TOTAL AVAILABILITY 952 1030 616 521 1415 645 190 1801 600 368 11813

CONCORDIA UNIVERSITY COMPUTER CENTER

Max

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 135.00 for disciplines 1 to 10
122.00 for disciplines 11 to 12

690+ 69%

FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE (+)	UNDER AGE (-)	11 THES (T=2)	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	181	50	0	0	0	40	0	0	0	0													7* 910	7* 154		
					181	19	0	0	0	178	0	0	0	0															549	1713
					103	103	0	0	0	138	0	0	0	0											0	41	-130	-22		
					103	103	0	0	0	138	0	0	0	0																
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	120	0	0	0	0	0	95	0	0	0													7* 910	7* 154		
					120	0	0	209	0	0	0	0	0	0															545	1609
					128	0	0	128	0	0	132	0	0	0											0	235	-130	-22		
					128	0	0	128	0	0	132	0	0	0																
3 ASC	~~14~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	113	0	45	50	0	0	0	0													7* 910	7* 154		
					0	0	0	63	0	10	223	0	0	0											0	536			504	1568
					0	0	~~269~~ 113	0	~~120~~ 56	~~130~~ 56	0	0	0	0												196	-130	-22		
					0	0	260 172	0	~~130~~ 56	~~120~~ 56	0	0	0	0																
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	121	0	0	227	0	0	0	60	0													8* 1040	8* 176		
					0	45	0	0	0	51	0	0	0	0															523	1739
					0	182	0	0	286	0	0	0	0	19	0										0	517	-260	-46		
					0	182	0	0	286	0	0	0	0	52	0															
5 AST	~~18~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	30	0	0	182	0	0	0	140	0													7* 910	7* 154		
					0	11	0	0	0	40	0	0	0	46	0										0	~~590~~ 291			450	1514
					0	~~171~~ 113	0	0	~~175~~ 115	~~176~~ 115	0	0	0	~~171~~ 113	0												-130	-22		
					0	~~171~~ 113	0	0	0	~~176~~ 115	0	0	0	~~171~~ 113	0															
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	0													0 0	0 0		
					0	0	0	0	0	52	0	0	0	0															52	52
					0	0	0	0	0	83	0	0	0	0											0	114				
					0	0	0	0	0	83	0	0	0	0																
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	0	10	0	0	0													0 0	0 0		
					0	0	0	0	0	0	44	0	0	0																
					0	0	0	0	0	0	49	0	0	0	126														181	181
					0	0	0	0	0	0	49	0	0	0	116	0									0	151				
					0	0	0	0	0	0	49	0	0	0	116															
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	108	0	0												0 0	0 0		
					0	0	0	0	0	0	0	0	185	0	0															
					0	0	0	0	0	0	0	0	83	0	0	-127	0												293	293
					0	0	0	0	0	0	0	0	83	0	0															
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	12	0	0	0	0	0	54	0	0												0 0	0 0		
					0	0	0	7	0	0	0	0	92	0	0															
					0	0	56	0	0	0	0	0	109	0	0										0	167			165	165
					0	0	0	56	0	0	0	0	109	0	0															
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	108	0	0												0 0	0 0		
					0	0	0	0	0	0	0	0	185	0	0															
					0	0	0	0	0	0	0	0	83	0	0	-127	0												293	293
					0	0	0	0	0	0	0	0	83	0	0															

Total 5054.8 hours

TOTAL REQUIRED 1253 1105 686 782 1516 1090 190 2263 665 494 14164

TOTAL AVAILABILITY [illegible]

Max

1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 135.00 } for disciplines 1 to 10
= 133.00 } for disciplines 1 to 12

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER 1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE (+)	UNDER AGE (-)	11 THES	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	181	75	0	0	0	219	0	0	0	0	0										7* 910	7* 154	706	1770
					181	50	0	0	0	0	0	0	0	0	0										-130	-22		
					103	103	0	0	0	138	0	0	0	0	0								-16	0				
					103	103	0	0	0	138	0	0	0	0	0													
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	120	0	0	209	0	0	95	0	0	0											7* 910	7* 154	545	1609
					120	0	0	0	0	0	0	0	0	0											-130	-22		
					128	0	0	128	0	0	132	0	0	0									0	235				
					128	0	0	128	0	0	132	0	0	0														
3 ASC	~~18/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	267	0	45	274	0	0	0	0											7* 910	7* 154	789	1773
					0	0	0	113	0	10	0	0	0	0									0	~~331~~ -19	-130	-22		
					0		0 ~~200~~ ~~260~~ 172		0 ~~130~~ 86	~~130~~ ~~130~~ 86	0	0	0	0														
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	181	0	0	227	0	0	0	0	0											8* 1040	8* 176	599	1815
					0	121	0	0	0	51	0	0	0	0									0	441				
					0	182	0	0	286	0	0	0	52	0											-260	-44		
					0	182	0	0	286	0	0	0	52	0														
5 AST	~~18/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	45	0	0	182	0	0	0	0	0											7* 910	7* 154	344	1408
					0	30	0	0	0	40	0	0	0	46	0								0	~~696~~ 347	-130	-22		
					0 ~~171~~ 115		0 ~~171~~ 115		0 ~~176~~ 115		0	0	0 ~~171~~ 115		0													
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	52	0	0	0	0	0	0											0 0	0 0	52	52
					0	0	0	0	0	0	0	0	0	0									0	114				
					0	0	0	83	0	0	0	0	0	0														
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	54	0	0	0	0											0 0	0 0	181	181
					0	0	0	0	0	0	0	0	0	126									0	151				
					0	0	0	0	0	49	0	0	0	116														
					0	0	0	0	0	0	49	0	0	0	116													
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	195	0	0										0 0	0 0	293	293
					0	0	0	0	0	0	0	0	98	0	0								-127	0				
					0	0	0	0	0	0	0	0	83	0	0													
					0	0	0	0	0	0	0	0	83	0	0													
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	29	0	0	0	0	97	0	0											0 0	0 0	187	187
					0	0	12	0	0	0	0	49	0	0									0	145				
					0	0	56	0	0	0	0	109	0	0														
					0	0	56	0	0	0	0	109	0	0														
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	195	0	0											0 0	0 0	293	293
					0	0	0	0	0	0	0	98	0	0									-127	0				
					0	0	0	0	0	0	0	83	0	0														
					0	0	0	0	0	0	0	83	0	0														

Total 5054.8 hours

TOTAL REQU 1554 1306 811 782 1617 1090 190 2508 730 620 16277 2419 2082 475 2529 930

TOTAL AVAILABILITY 440 984 428 410 1175 630 262 544 442 930

Max

1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 138.00 for disciplines 1 to 10
134.00 for disciplines 11 to 12

FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	1 F W	2 F W	3 F W	4 F W	5 F W	6 F W	7 F W	8 F W	9 F W	10 F W	OVER AGE (+)	UNDER AGE (-)	11 THES INTN	12 THES INTN	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	105 75 103 103	50 56 103 103	0 0 0 0	0 0 0 0	0 0 0 0	40 178 138 138	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0	186	910 -130	154 -22	504	1568
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	70 50 128 128	0 0 0 0	0 0 128 128	84 124 128 128	0 0 0 0	0 0 132 132	0 95 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0	356	910 -130	154 -22	424	1488
3 ASC	~~14/~~ 12 ~~1040.0~~ 610.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0 0 0 0	0 0 0 0	113 ~~[illegible]~~ 113 ~~360~~ 192	0 63 0 ~~[illegible]~~	10 45 0 ~~[illegible]~~	50 223 ~~[illegible]~~	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0	~~530~~ 186	910 -130	154 -22	504	1568
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0 0 0 0	121 136 182 182	0 0 0 0	0 51 286 286	0 0 0 0	0 0 0 0	0 60 52 52	0 0 0 0	0 0 0 0	0 0 0 0	0	445	1040 -260	176 -44	595	1811
5 AST	~~18/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0 0 0 0	30 34 ~~171~~ 113 ~~171~~ 113	0 0 0 0	0 40 182 ~~176~~ 113 ~~176~~ 113	0 0 0 0	0 0 0 0	0 140 0 ~~171~~ 113 ~~171~~ 113	0 0 0 0	0 0 0 0	0 0 0 0	0	~~415~~ 264	910 -130	154 -22	427	1491
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0 0 0 0	0 0 0 0	0 0 0 0	21 31 83 83	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0	114	0 0	0 0	52	52
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	10 44 49 49	0 0 0 0	0 0 0 0	0 126 116 116	0 0 0 0	0	151	0 0	0 0	181	181
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 108 83 83	0 185 0 0	0 0 0 0		0	-127 0	0 0	0 0	293	293
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0 0 0 0	0 0 0 0	12 7 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 54 92 0	0 0 0 0	0 0 0 0		0	167	0 0	0 0	165	165
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 108 83 83	0 185 0 0	0 0 0 0		0	-127 0	0 0	0 0	293	293
TOTAL REQ					349.	2520	2182	475	2799	1130	1679	1532	881	937	2071	1535	285	2970	730	620	10865

Total 5054.8 hours

NO

60 STUDENTS

1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975 1975

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 111.00 for disciplines 1 to 10 incl. for disciplines 1 to 12 incl. 690+ 699.

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER 1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE	UNDER AGE	11 THES	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	213	57	0	0	0	0	0	0	0	0	0	0	0	0					2	7*				
					201	31	0	0	0	0	0	0	0	0	0	0	0	0					260	154				
					103	103	0	0	0	138	0	0	0	0	0	0	0	0		0	188						502	916
					103	103	0	0	0	138	0	0	0	0	0	0	0	0					520	-22				
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	142	0	0	96	0	0	0	0	0	0	0	0	0	0					2	7*				
					134	0	0	36	0	0	0	41	0	0	0	0	0	0					260	154				
					128	0	0	128	0	0	132	0	0	0	0	0	0	0		0	330						450	864
					128	0	0	128	0	0	132	0	0	0	0	0	0	0					520	-22				
3 ASC	12 ~~18/~~ ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	102	0	23	0	0	0	0	0	0	0	0	0					3	7*				
					0	0	0	42	0	8	0	0	0	0	0	0	0	0					390	154				
					0	0	~~240~~ 115	0	~~130~~ 86	~~130~~ 86	0	0	0	0	0	0	0	0		0	~~465~~						175	719
					0	0	240 ~~142~~	0	~~130~~ 86	~~130~~ 86	0	0	0	0	0	0	0	0					390	-22				
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	138	0	0	117	0	0	0	120	0									2	8*				
					0	76	0	0	42	0	0	0	120	0									260	176				
					0	182	0	0	286	0	0	0	52	0		0	427						520	-44			613	1049
					0	182	0	0	286	0	0	0	52	0														
5 AST	12 ~~18/~~ 1040.0 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	34	0	0	94	0	0	0	280	0									2	7*				
					0	19	0	0	0	33	0	0	0	280	0								260	154				
					0	~~171~~ 115	0	0	~~170~~ 115	0	0	0	~~171~~ 115	0		0	~~299~~						520	-22			741	1155
					0	~~171~~ 115	0	0	0	~~176~~ 115	0	0	0	~~171~~ 115	0													
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	24	0	0	0	0	0	0									0	0				
					0	0	0	0	9	0	0	0	0	0	0								0	0				
					0	0	0	83	0	0	0	0	0	0	0					0	133						33	33
					0	0	0	83	0	0	0	0	0	0	0								0	0				
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	0	0	0	0	0	0	78							0	0				
					0	0	0	0	0	0	0	0	0	0	0	0							0	0				
					0	0	0	0	0	49	0	0	0	116			0	253									79	79
					0	0	0	0	0	49	0	0	0	116									0	0				
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	86	0	0									0	0				
					0	0	0	0	0	0	0	0	202	0	0								0	0				
					0	0	0	0	0	0	0	83	0	0	0	-122	0										288	288
					0	0	0	0	0	0	0	83	0	0	0								0	0				
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	11	0	0	0	0	43	0	0									0	0				
					0	0	4	0	0	0	0	101	0	0	0								0	0				
					0	0	56	0	0	0	0	109	0	0	0		0	173									159	159
					0	0	56	0	0	0	0	109	0	0	0								0	0				
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	86	0	0									0	0				
					0	0	0	0	0	0	0	202	0	0	0								0	0				
					0	0	0	0	0	0	0	83	0	0	0	-122	0										288	288
					0	0	0	0	0	0	0	83	0	0	0								0	0				
TOTAL REQUIRED							20	234	0	0	215	400																
TOTAL AVAILABILITY					335	126	46	45	83	0	41	505	400	78		2668												

Total 5054.8 hours

NO

1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976 1976

FACULTY OVERAGE/UNDERAGE REPORT — NOTE CREDIT CONTACT RATIO = 87.00

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER 1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE	UNDER AGE	11 THES	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	70	34	0	0	0	58	0	0	0	0			2	5		
					0	36	0	0	0	18	0	0	0	0	0		260	110		
					103	103	0	0	0	138	0	0	0	0	0	474			216	586
					103	103	0	0	0	138	0	0	0	0	0		520	22		
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	47	0	0	0	0	0	53	0	0	0			2	5		
					0	0	0	96	0	0	0	0	0	0	0		260	110		
					128	0	0	128	0	0	132	0	0	0	0	583			197	567
					128	0	0	128	0	0	132	0	0	0			520	22		
3 ASC	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	0	47	0	15	73	0	0	0	0			3	6		
					0	0	81	0	27	23	0	0	0	0	0		390	132		
					0	0	260	0	130	130	0	0	0	0	0	774			266	788
					0	0	260	0	130	130	0	0	0	0	0		390	0		
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	82	0	0	78	0	0	0	19	0			2	5		
					0	87	0	0	137	0	0	0	0	0	0		260	110		
					0	182	0	0	286	0	0	0	52	0	0	637			403	773
					0	182	0	0	286	0	0	0	52	0			520	22		
5 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	20	0	0	62	0	0	0	46	0			2	5		
					0	21	0	0	109	0	0	0	0	0	0		260	110		
					0	171	0	0	176	0	0	0	171	0	0	781			259	629
					0	171	0	0	176	0	0	0	171	0			520	22		
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	146	0	0	0	0	0	0	0	0	0	0			0	0		
					0	0	0	24	0	0	0	0	0	0	0		0	0		
					0	0	0	83	0	0	0	0	0	0	0	142			24	24
					0	0	0	83	0	0	0	0	0	0			0	0		
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	14	0	0	0	62			0	0		
					0	0	0	0	0	4	0	0	0	0	0		0	0		
					0	0	0	0	0	49	0	0	0	116	0	251			81	81
					0	0	0	0	0	49	0	0	0	116			0	0		
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	136	0	0			0	0		
					0	0	0	0	0	0	0	112	0	0						
					0	0	0	0	0	0	0	83	0	0	-82	0			248	248
					0	0	0	0	0	0	0	83	0	0			0	0		
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	5	0	0	0	0	68	0	0			0	0		
					0	0	9	0	0	0	0	56	0	0			0	0		
					0	0	56	0	0	0	0	109	0	0	0	194			138	138
					0	0	56	0	0	0	0	109	0	0			0	0		
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	136	0	0			0	0		
					0	0	0	0	0	0	0	112	0	0						
					0	0	0	0	0	0	0	83	0	0	-82	0			248	248
					0	0	0	0	0	0	0	83	0	0			0	0		
TOTAL REQ	284				20	389	145	53	555	465										
TOTAL AVAILABILITY	248	686	474	317	335	270	136	165	356	45	41	785	400	78		6504				

CONCORDIA UNIVERSITY COMPUTER CENTER

150

NO 60

1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977 1977

FACULTY OVERAGE/UNDERAGE REPORT — NOTE CREDIT CONTACT RATIO = 113.00

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER 1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE	UNDER AGE	11 THES	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/	6/	6/		237		34		0		0		0		26		0		0		0		0				4	7*		
	690.0	780.0	132.0	1602		129		30		0		0		0		42		0		0		0		0			520	194		
					103		103		0		0		0		138		0		0		0		0		0	192			498	1172
						103		103		0		0		0		138		0		0		0		0			260	-22		
2 ASC	15/	6/	6/		158		0		0		0		0		0		35		0		0		0				4	8*		
	780.0	780.0	132.0	1692		86		0		0		96		0		0		0		0		0		0			520	176		
					128		0		0		128		0		0		132		0		0		0		0	404			376	1072
						128		0		0		128		0		0		132		0		0		0			260	-44		
3 ASC	19/	6/	6/		0		0		45		0		17		32		0		0		0		0				6	7*		
	1040.0	780.0	132.0	1952		0		0		0		0		17		53		0		0		0		0			780	154		
					0		0		260		0		130		130		0		0		0		0		0	876			164	1098
						0		0		260		0		130		130		0		0		0		0			0	-22		
4 AST	18/	6/	6/		0		82		0		0		88		0		0		0		88		0				4	8*		
	1040.0	780.0	132.0	1952		0		73		0		0		87		0		0		0		0		0			520	176		
					0		182		0		0		286		0		0		0		52		0			622			418	1114
						0		182		0		0		286		0		0		0		52		0			260	-44		
5 AST	18/	6/	6/		0		20		0		0		70		0		0		0		207		0				4	7*		
	1040.0	780.0	132.0	1952		0		18		0		0		69		0		0		0		0		0			520	154		
					0		171		0		0		176		0		0		0		171		0		0	655			385	1059
						0		171		0		0		176		0		0		0		171		0			260	-22		
20 LEC	3/	0/	0/		0		0		0		0		0		0		0		0		0		0				0	0		
	166.4	0.0	0.0	166		0		0		0		24		0		0		0		0		0		0			0	0		
					0		0		0		83		0		0		0		0		0		0		0	142			24	24
						0		0		0		83		0		0		0		0		0		0			0	0		
21 LEC	6/	0/	0/		0		0		0		0		0		6		0		0		0		0				0	0		
	332.8	0.0	0.0	332		0		0		0		0		0		10		0		0		0		86			0	0		
					0		0		0		0		0		49		0		0		0		116		0	229			103	103
						0		0		0		0		0		49		0		0		0		116			0	0		
22 LEC	3/	0/	0/		0		0		0		0		0		0		0		0		118		0				0	0		
	166.4	0.0	0.0	166		0		0		0		0		0		0		0		0		132		0			0	0		
					0		0		0		0		0		0		0		0		83		0		-84	0			250	250
						0		0		0		0		0		0		0		0		83		0			0	0		
23 LEC	6/	0/	0/		0		0		5		0		0		0		0		0		59		0				0	0		
	332.8	0.0	0.0	332		0		0		0		0		0		0		0		0		66		0			0	0		
					0		0		56		0		8		0		0		0		109		0		0	202			130	130
						0		0		56		0		0		0		0		0		109		0			0	0		
24 LEC	3/	0/	0/		0		0		0		0		0		0		0		0		118		0				0	0		
	166.4	0.0	0.0	166		0		0		0		0		0		0		0		0		132		0			0	0		
					0		0		0		0		0		0		0		0		83		0		-84	0			250	250
						0		0		0		0		0		0		0		0		83		0			0	0		
TOTAL REQ						550		391		136		285		529		150		41		1115		400		164		9826				

1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978 1978

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 125.00 for disciplines 1 to 10 incl
= 128.0 for disciplines 1 to 12 incl

FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE (+)	UNDER AGE (-)	11 THES	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	169	57	0	0	0	112	0	0	0	0	0	0	0	0	0	0						119	4 520	7* 154	571	1245
					169	36	0	0	0	28	0	0	0	0	0	0	0	0	0	0							260	-22		
					103	103	0	0	0	138	0	0	0	0	0	0	0	0	0	0										
					103	103	0	0	0	138	0	0	0	0	0	0	0	0	0	0										
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	112	0	0	186	0	0	65	0	0	0	0	0	0	0	0	0						304	4 520	8* 176	476	1172
					112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							260	-44		
					128	0	0	128	0	0	132	0	0	0	0	0	0	0	0	0										
					128	0	0	128	0	0	132	0	0	0	0	0	0	0	0	0										
3 ASC	~~18/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	0	81	0	33	140	0	0	0	0	0	0	0	0	0							4 520	7* 154	377	1051
					0	0	0	72	0	16	35	0	0	0	0	0	0	0	0	0										
					0	0	~~244~~ 172 ~~268~~ 172	0	~~120~~ 86	~~120~~ 86	~~120~~ 86	0	0	0	0	0	0	0	0	0						313	260	-22		
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0										
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	138	0	0	167	0	0	0	0	0	0	0	0	0	0	0							4 520	8* 176	593	1289
					0	0	87	0	0	81	0	0	0	0	0	0	0	120	0	0						447				
					0	182	0	0	286	0	0	0	0	0	0	0	0	52	0	0							260	-44		
					0	182	0	0	286	0	0	0	0	0	0	0	0	52	0	0										
5 AST	~~18/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	34	0	0	133	0	0	0	0	0	0	0	0	0	0	0							4 520	7* 154	534	1208
					0	21	0	0	0	65	0	0	0	0	0	0	0	280	0	0										
					0	~~171~~ 115 ~~171~~ 115	0	0	~~170~~ 115 ~~176~~ 115	0	0	0	0	0	0	0	0	~~171~~ 115 ~~171~~ 115	0	0						~~506~~ 157	260	-22		
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0										
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0							0 0	0 0	46	46
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						120				
					0	0	0	83	0	0	0	0	0	0	0	0	0	0	0	0							0 0	0 0		
					0	0	0	0	83	0	0	0	0	0	0	0	0	0	0	0										
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	0	28	0	0	0	0	0	0	0	0	0							0 0	0 0	110	110
					0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0						222				
					0	0	0	0	0	0	49	0	0	0	0	0	0	116	0	0							0 0	0 0		
					0	0	0	0	0	0	49	0	0	0	0	0	0	116	0	0										
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	0	0	178	0	0	0	0							0 0	0 0	314	314
					0	0	0	0	0	0	0	0	0	0	0	83	0	136	0	0					-148	0				
					0	0	0	0	0	0	0	0	0	0	0	83	0	0	0	0							0 0	0 0		
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	0	0	0	0	0	0	89	0	0	0	0							0 0	0 0	174	174
					0	0	0	0	0	0	0	0	0	0	0	89	0	68	0	0										
					0	0	56	0	0	0	0	0	0	0	0	169	0	0	0	0						156	0 0	0 0		
					0	0	56	0	0	0	0	0	0	0	0	169	0	0	0	0										
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	0	0	178	0	0	0	0							0 0	0 0	314	314
					0	0	0	0	0	0	0	0	0	0	0	83	0	136	0	0					-148	0				
					0	0	0	0	0	0	0	0	0	0	0	83	0	0	0	0							0 0	0 0		
TOTAL REQ					152		897		489		153		1295		760															
TOTAL AVAILABILITY					831		535		216		285		691		220		41		1455		880		164						12365	

Total 5054.8 hours.

1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979 1979

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 109.00 for disciplines 1-8 & 10 and 120.00 for disciplines 9, 11-12 incl.

FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER

FACULTY CODE #	RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE (+)	UNDER AGE (-)	11 THES T-20	12 INTN T-39	CUM INSTR HOURS	CUM SUPER HOURS
1	ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	223	103	39	45	0	103	40	103	0	0	0	138	77	138	0	0	0	0	0	0	0	242	4 520	76 154	448	1122
							103		103		103		103		0		0		0		0		0		0			260	-22		
2	ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	148	128	0	30	0	0	148	128	0	0	0	0	0	132	65	0	0	0	0	0	0	388	4 520	8* 176	392	1088
							128		128		0		128		0		0		132		0		0		0			260	-44		
3	ASC	~~18/~~ 12 ~~1040.0~~ 640.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	0	0	63	118	0	9	38	97	31	0	0	0	0	0	0	0	0	0	0		4 520	~~+0~~ 8 ~~154~~ 176	356	1030
						0	0	0	~~240~~ 172		0	~~120~~ 46	~~120~~ 46		~~120~~ 46		0	0	0	0	0	0	0	0	0	~~484~~ 534	260	-22		
4	AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	0	94	97	0	0	0	0	46	193	0	0	0	0	0	0	0	0	0	0	0		4 520	8* 176	430	1126
						0	0	182	182	0	0	0	0	286	286	0	0	0	0	52	52	0	0	0	0	0	610	260	-44		
5	AST	~~18/~~ 12 ~~1040.0~~ 640.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	23	24	0	0	0	0	36	154	0	0	0	0	0	0	0	0	0	0	0		4 520	~~+0~~ 8 ~~154~~ 176	238	912
						0	0	~~171~~ 115	~~171~~ 115	0	0	0	0	~~176~~ 115	~~176~~ 115	0	0	0	0	~~171~~ 115	~~171~~ 115	0	0	0	0	0	~~402~~ 453	260	-22		
20	LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	37	83	0	0	0	0	0	0	0	0	0	0	0	0	0	129	0	0	37	37
						0	0	0	0	0	0	83		0	0	0	0	0	0	0	0	0	0	0	0	0		0	0		
21	LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	0	0	0	0	0	19	61	0	0	0	0	0	58	86	0	0	162	0	0	170	170
						0	0	0	0	0	0	0	0	0	49		49	0	0	0	0	0	116	116	0	0		0	0		
22	LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237	107	0	0	0	0	0		0	0	344	344
						0	0	0	0	0	0	0	0	0	0	0	0	0	0	83	83	0	0	-178	0	0		0	0		
23	LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	7	13	0	0	0	0	0	0	0	0	118	53	0	0	0	0	0		0	0	191	191
						0	0	0	0	56	56	0	0	0	0	0	0	0	0	109	109	0	0	0	0	0	141	0	0		
24	LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237	107	0	0	0	0	0		0	0	344	344
						0	0	0	0	0	0	0	0	0	0	0	0	0	0	83	83	0	0	-178	0	0		0	0		
Total		5054.8 hours				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83	0	0					0	0		
TOTAL REQUIRED										37	988	602		153	1807		766														
TOTAL AVAILABILITY						906	696	347	285	1076	281	106	1722	800	250		15523														

60

1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 122.00 for disciplines one to ten
= 127.00 for disciplines 11 to 12

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER 1 F W	2 F W	3 F W	4 F W	5 F W	6 F W	7 F W	8 F W	9 F W	10 F W	OVER AGE (+)	UNDER AGE (-)	11 THES	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	169 145 103 103	46 12 103 103	0 0 0 0	0 0 0 0	0 0 0 0	22 94 138 138	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0	202	5 650 130	~~154~~ 220 -22	488	1292
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	112 96 128 128	0 0 0 0	0 0 128 128	0 170 0 128	0 0 0 0	56 0 132 132	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0	345	5 650 130	~~8~~ 11 ~~176~~ 242 -44	435	1261
3 ASC	~~15~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0 0 0 0	0 0 0 0	66 55 ~~260~~ 173 260 172	0 32 0 ~~130~~ 26 ~~130~~ 26	28 10 118	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0	~~731~~ 381	5 650 130	~~7~~ 11 ~~164~~ 242 -22	309	1113
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0 112 0 182	0 30 0 182	0 0 0 0	162 51 286 286	0 0 0 0	0 0 0 0	0 0 0 0	180 19 52 52	0 0 0 0		0	486	5 650 130	~~8~~ 11 ~~176~~ 242 -44	554	1380
5 AST	~~18~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0 28 0 ~~171~~ 115	0 7 0 ~~171~~ 115	0 0 0 0	129 40 ~~176~~ 115	0 0 0 0	0 0 0 0	0 0 0 0	420 46 ~~171~~ 115	0 0 0 0		0	~~369~~ -20	5 650 130	~~7~~ 11 ~~154~~ 242 -22	671	1475
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0 0 0 0	0 0 0 0	0 0 42 83	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0	124	0 0	0 0	42	42
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	5 23 49 49	0 0 0 0	0 0 0 0	0 0 116 116	0 86	0	217	0 0	0 0	115	115
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	114 152 83 83	0 0 0 0	0 0 -100 0			0 0	0 0	266	266
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0 0 0 0	0 0 0 0	7 6 56 56	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	57 76 109 109	0 0 0 0	0 0 0 0	0	186	0 0	0 0	146	146
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	114 152 83 83	0 0 0 0	0 0 -100 0			0 0	0 0	266	266

Total 5054.8 hours

TOTAL REQ 1137 1311 737 209 2172 1360

TOTAL AVAILABILITY 1147 745 408 497 1177 516 106 2102 885 336 18183

CONCORDIA UNIVERSITY COMPUTER CENTER

1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 98.00 for disciplines 1 to 10
= 117.00 for disciplines 1 to 12

FACULTY CODE #	RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER 1 F	1 W	2 F	2 W	3 F	3 W	4 F	4 W	5 F	5 W	6 F	6 W	7 F	7 W	8 F	8 W	9 F	9 W	10 F	10 W	OVER AGE (+)	UNDER AGE (-)	11 THES	12 INTR	CUM INSTR HOURS	CUM SUPER HOURS
1	ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	204	58	0	0	0	96	0	0	0	0													6	~~74~~ 10		
						139	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					780	~~154~~ 220		
						103	103	0	0	0	138	0	0	0	0															524	1458
						103	103	0	0	0	138	0	0	0	0											166		0	-22		
2	ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	136	0	0	110	0	0	65	0	0	0													6	~~80~~ 70		
						92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					780	~~176~~ 220		
						128	0	0	128	0	0	132	0	0	0											376				404	1368
						128	0	0	128	0	0	132	0	0	0													0	-44		
3	ASC	~~18/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	0	130	0	39	120	0	0	0	0													6	~~74~~ 11		
						0	0	0	52	0	11	0	0	0	0	0												780	~~154~~ 242		
						0	0	~~260~~ 173	~~260~~ 172	0	~~130~~ ~~130~~ 86	~~130~~ ~~130~~ 86	0	0	0	0										~~408~~ 358		0	-22	352	1286
4	AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0	139	0	0	198	0	0	0	0	0													6	~~80~~ 10		
						0	66	0	0	56	0	0	0	0	19	0												780	~~176~~ 220		
						0	182	0	0	286	0	0	0	0	52	0	0									562				478	1434
						0	182	0	0	286	0	0	0	0	52	0												0	-44		
5	AST	~~18/~~ 12 ~~1040.0~~ 690.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0	34	0	0	158	0	0	0	0	0													6	~~70~~ 11		
						0	16	0	0	0	44	0	0	0	46	0												780	~~154~~ 242		
						0	~~171~~ 115	0	0	~~176~~ 115	~~176~~ 116	0	0	0	~~171~~ 115	~~171~~ 116	0									~~741~~ 392		0	-22	299	1233
20	LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	27	0	0	0	0	0	0													0	0		
						0	0	0	0	0	0	0	0	0	0	0															
						0	0	0	83	0	0	0	0	0	0	0	0									139				27	27
						0	0	0	83	0	0	0	0	0	0	0												0	0		
21	LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	0	0	0	24	0	0	0	0													0	0		
						0	0	0	0	0	0	0	0	0	0	0	70											0	0		
						0	0	0	0	0	49	0	0	0	116											237				95	95
						0	0	0	0	0	49	0	0	0	116													0	0		
22	LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	170	0	0													0	0		
						0	0	0	0	0	0	0	0	94	0	0												0	0		
						0	0	0	0	0	0	0	83	0	0	0	-98	0												264	264
						0	0	0	0	0	0	0	0	83	0	0												0	0		
23	LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0	0	14	0	0	0	0	85	0	0													0	0		
						0	0	0	5	0	0	0	0	47	0	0												0	0		
						0	0	56	0	0	0	0	109	0	0	0										181				151	151
						0	0	56	0	0	0	0	109	0	0	0												0	0		
24	LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0	0	0	0	0	0	0	170	0	0													0	0		
						0	0	0	0	0	0	0	83	94	0	0	-98	0												264	264
						0	0	0	0	0	0	0	0	83	0	0												0	0		
TOTAL REQUIRED						1378	854	465	497	1288	516	106	2337	930	406																
TOTAL AVAILABILITY						[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]																

Total 50548 hours

1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982 1982

FACULTY OVERAGE/UNDERAGE REPORT

NOTE CREDIT CONTACT RATIO = 135.00 for disciplines 1 to 10
= 132.00 for disciplines 1 to 12 690+ 699

FACULTY AVAILABILITY/CONTACT HOURS BY DISCIPLINE & SEMESTER

FACULTY CODE # RANK	INSTRUC CREDIT CONTACT	THESIS CREDIT CONTACT	INTERN CREDIT CONTACT	TOTAL HOURS	1 F W	2 F W	3 F W	4 F W	5 F W	6 F W	7 F W	8 F W	9 F W	10 F W	OVER AGE (+)	UNDER AGE (-)	11 THES	12 INTN	CUM INSTR HOURS	CUM SUPER HOURS
1 ASC	12/ 690.0	6/ 780.0	6/ 132.0	1602	123 63	34 35	0 0	0 0	0 0	24 99	0 0	0 0	0 0	0 0			8* 1040	15 154	378	1572
					103 103	103 103	0 0	0 0	0 0	138 138	0 0	0 0	0 0	0 0		312	-260	-22		
2 ASC	15/ 780.0	6/ 780.0	6/ 132.0	1692	82 42	0 0	0 0	68 117	0 0	0 0	0 41	0 0	0 0	0 0			8* 1040	15 176	351	1567
					128 128	0 0	0 0	128 128	0 0	0 0	132 132	0 0	0 0	0 0		429	-260	-44		
3 ASC	12 ~~10/~~ ~~1040.0~~ 640.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0 0	0 0	73 55	0 0	8 37	31 124	0 0	0 0	0 0	0 0		~~712~~ 362	8* 1040	14 154	328	1522
					0 0	~~240~~ 0 ~~112~~ ~~240~~ ~~112~~	0 0	~~170~~ ~~170~~ ~~126~~ ~~126~~ ~~80~~ ~~80~~	0 0	~~170~~ ~~170~~ ~~126~~ ~~126~~ ~~80~~ ~~80~~	0 0	0 0	0 0	0 0			-260	-22		
4 AST	18/ 1040.0	6/ 780.0	6/ 132.0	1952	0 0	83 85	0 0	0 0	44 187	0 0	0 0	0 0	240 0	0 0			8* 1040	14 176	639	1855
					0 0	182 182	0 0	0 0	286 286	0 0	0 0	0 0	52 52	0 0		401	-260	-44		
5 AST	12 ~~10/~~ ~~1040.0~~ 640.0	6/ 780.0	6/ 132.0	~~1952~~ 1602	0 0	20 21	0 0	0 0	35 149	0 0	0 0	0 0	560 0	0 0			8* 1040	14 154	786	1980
					0 0	~~171~~ 115 ~~171~~ 115	0 0	~~170~~ ~~170~~ 115 ~~176~~ 115	0 0	0 0	0 0	0 0	~~171~~ ~~171~~ 115 ~~171~~ 115	0 0		~~254~~ -95	-260	-22		
20 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0 0	0 0	0 17	0 29	0 0	0 0	0 0	0 0	0 0	0 0			0	0		
					0 0	0 0	0 83	0 83	0 0	0 0	0 0	0 0	0 0	0 0		128	0	0	46	46
21 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0 0	0 0	0 0	0 0	0 0	6 24	0 0	0 0	0 86	0 0			0	0		
					0 0	0 0	0 0	0 0	0 0	49 49	0 0	0 0	0 116	0 116		215	0	0	117	117
22 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0 0	0 0	0 0	0 0	0 0	0 0	0 121	0 163	0 0	0 0			0	0		
					0 0	0 0	0 0	0 0	0 0	0 0	0 83	0 83	0 0	0 0	-118	0	0	0	284	284
23 LEC	6/ 332.8	0/ 0.0	0/ 0.0	332	0 0	0 0	0 6	0 0	0 0	0 0	0 40	0 81	0 0	0 0			0	0		
					0 0	56 56	0 0	0 0	0 0	0 0	189 189	0 0	0 0	0 0		177	0	0	155	155
24 LEC	3/ 166.4	0/ 0.0	0/ 0.0	166	0 0	0 0	0 0	0 0	0 0	0 0	0 121	0 163	0 0	0 0			0	0		
					0 0	0 0	0 0	0 0	0 0	0 0	0 83	0 83	0 0	0 0	-118	0	0	0	284	284

Total 5054.8 hours

TOTAL REQ 1483 995 526 643 1661 763 147 2744 938 486 23893 59 1793 1038 274 2899 2160

TOTAL AVAILABILITY 442 810 470 471 1108 439 363 848 446 231 [illegible]