COURSE TITLE: Management of Information Systems in Human Service Agencies
COURSE NUMBER: 662 Section 001
CREDIT HOURS: 3
SEMESTER: Winter 2004
FACULTY: Dale Fitch, Ph.D.
OFFICE HOURS: By Appointment
CONTACT INFO: O: 2794 SSWB  P: (734) 763-6286  E: dale@umich.edu

Course Description
The development and use of management information systems (MISs) in the human services will be presented in this course with the goal of introducing students to relevant social work knowledge, skills, and practice. Basic principles of information management will be presented and students will apply those principles to the analysis of existing information systems and the planning and construction of information system improvements.

Course Content
This course will present the variety of roles that management information systems play in human service organizations. Students will learn about direct operations such as tracking services provided, client characteristics, billing, etc. Emphasis will be placed on how management information systems can be used in the assessment of agency operations, including a variety of process and outcome indicators. Potential problems associated with the introduction of information systems in social service agencies that can raise challenges to the ethical standards of social workers will be reviewed (e.g., possible violations of confidentiality/privacy, limits on the sharing of information, and potential misuses or misinterpretations of agency or client information).

In many organizations, experts in the technical aspects of computerization have extensive responsibility in the design and implementation of information systems, while those who are knowledgeable about services often are not an integral part of the system design process. This course will enable social work students to play an active role in the creation or upgrading of agency information systems.

Students will learn the basics of database management software and apply that knowledge to assessing an existing system as well as design an information system improvement. This course will enable social work professionals to play an informed role in information system development in social service agencies. Students will learn how to serve as a “translator,” or intermediary, between the needs of the agency and the demands of the technical process of information system development.

Course Objectives:
On completion of this course, students will be able to:

1. Identify the information needs within an agency and distinguish between those needs that can be met through a management information system and those which require other sources of information.
2. Conceptualize the relationship between different information sources in order to facilitate access and improve various shortcomings of existing management information systems.

3. Participate in the process of upgrading an information system in an agency, including:
   a) identification of points in the agency process for the collection of data,
   b) design of forms and procedures for systematic collection of data,
   c) development of prototypes of reports using those data, and
   d) use of database management software to implement a basic information system prototype.

4. Recognize potential problems with regard to the appropriate use of data and the limits based on client confidentiality, rights of access to data, and professional responsibility.

Course Design
This course will be taught as a lecture and discussion course with a computer laboratory component in which students develop skills in the use of database management software. Guest lecturers will be used as appropriate, particularly to provide insights into specific applications of management information systems in social service organizations.

Relationship Of This Course To Four Curricular Themes
- **Multiculturalism and Social Diversity** will be addressed through the development of information systems which reflect sensitivity to non-majority perspectives (e.g., the categorization of race and the role of women in technology) and avoid societal stereotypes.
- **Social Justice and Social Change** will be addressed through the redesign of information systems to meet the needs of all agency personnel and create objective measures of effectiveness in meeting the needs of clients. Issues such as confidentiality of data and guidelines for sharing data between agencies will also be reviewed.
- **Behavioral and Social Sciences Research** will be used to develop the theoretical and empirical basis for understanding management information systems and their roles in organizations.
- **Promotion, Prevention, Treatment, and Rehabilitation** will be addressed through the application of management information systems technology to the array of human services organizations to create increased potentials for service coordination and assessing the quality of services for clients.

Relationship of the Course to Social Work Ethics and Values
Social work ethics and values will be addressed in terms of their application to the development and implementation of management information systems. For example, students will learn that confidentiality and data sharing issues are fundamental to the competent and responsible development of management information systems. In addition, students will discuss the use of management information systems to monitor employment productivity and address such issues as unfair workplace practices and tensions between efficiency and effectiveness in providing client services.

Accommodations
If you need or desire an accommodation for a disability, please let me know at your earliest convenience. Many aspects of this course, the assignments, the in-class activities and the way that the course is taught can be modified to facilitate your participation and progress throughout the semester. The earlier that you make me aware of your needs, the more
effectively we will be able to use the resources available to us, such as the services for Students with Disabilities, the Adaptive Technology Computing Site, and the like. If you do decide to disclose your disability, I will (to the extent permitted by law) treat that information as private and confidential.

**Required Readings**
The following book is a required text for the course:


Coursepak readings will be found on our CourseTools site. They will be available in PDF format for downloading and viewing.

**Valuable Resources**

- Webopedia @ [http://www.webopedia.com/](http://www.webopedia.com/) “The only online dictionary and search engine you need for computer and Internet technology.”
- Principia Cybernetica @ [http://pespmc1.vub.ac.be/](http://pespmc1.vub.ac.be/) The Principia Cybernetica Project (PCP) is a “collaborative, computer-supported attempt to develop a complete cybernetic and evolutionary philosophy. The project strives to be a transdisciplinary unification and foundation of the domain of Systems Theory and Cybernetics.”
- ISWorld Net @ [http://www.isworld.org/](http://www.isworld.org/) The purpose of this site is to “provide information management scholars and practitioners with a single entry point to resources related to information systems technology and promote the development of an international information infrastructure that will dramatically improve the world’s ability to use information systems for creating, disseminating, and applying knowledge.”

**Supplemental Readings**
So much to read and so little time. However, if for some strange reason you desire to know more, then you might want to start here:


**Assignments**
There are four (4) assignments for this course. They are summarized below with their relative weight in parentheses. Details follow the course outline.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Due Date</th>
<th>Weight</th>
</tr>
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<tbody>
<tr>
<td>First Paper</td>
<td>February 17</td>
<td>20%</td>
</tr>
<tr>
<td>Second Paper</td>
<td>March 23</td>
<td>25%</td>
</tr>
<tr>
<td>Third Paper</td>
<td>April 6</td>
<td>25%</td>
</tr>
<tr>
<td>Final Paper</td>
<td>April 27</td>
<td>30%</td>
</tr>
</tbody>
</table>
Grading

Grades are earned by successfully completing the work on the assignments. A 100 point system is used. At the end of the term, the numerical grades earned for each written assignment will be translated into letter grades according to the following formula:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>97-100</td>
</tr>
<tr>
<td>A</td>
<td>94-96</td>
</tr>
<tr>
<td>A-</td>
<td>91-93</td>
</tr>
<tr>
<td>B+</td>
<td>87-90</td>
</tr>
<tr>
<td>B</td>
<td>84-86</td>
</tr>
<tr>
<td>B-</td>
<td>81-83</td>
</tr>
<tr>
<td>C+</td>
<td>77-80</td>
</tr>
<tr>
<td>C</td>
<td>74-76</td>
</tr>
<tr>
<td>C-</td>
<td>70-73</td>
</tr>
<tr>
<td>D</td>
<td>&lt;69 (no credit)</td>
</tr>
</tbody>
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Please note:

- Incompletes are not granted unless it can be demonstrated that it would be unfair to hold the student to the normal limits of the course. The student must formally request an incomplete with the instructor prior to the final week of classes.

- All assignments are to be completed by the date due. Exceptions will need the permission of the instructor in advance of the due date for the assignment. At least one letter grade will be deducted for late submission of assignments.

- Students are to use APA “citation format” for each of the assignments. Each assignment needs to include appropriate attribution of authorship for paraphrases or ideas acquired from another source or appropriate citations, including page numbers for direct quotes. Please review the Student Guide section on Ethical Conduct in the University Environment. This section specifically addresses plagiarism and the possible consequences for engaging in this behavior.

- No other aspects of the APA style guide will be used. Instead, students are expected to prepare all assignments as “professional reports,” i.e., single-spaced, generous use of headings & sub-headings, different style fonts, underlining, italics, bold, etc. Examples will be provided in class.

Students are strongly encouraged to submit drafts of their assignments for feedback prior to the due date. These assignments are viewed as skill-building exercises, not tests. Therefore, the instructor encourages students to submit drafts for feedback and suggestions. As a consequence, students may not revise work after a grade has been assigned.
# Course Outline and Readings

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
<th>Reading</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 20</td>
<td><strong>What is Information and the Viable System Model? Part Two</strong></td>
<td><strong>Reading:</strong></td>
<td>*Wilson, F. (1997). The truth is out there: The search for emancipatory principles in information systems design. <em>Information Technology &amp; People, 10</em>(3), 187-204</td>
</tr>
</tbody>
</table>

**Feb 17**

**System Design and Development – Part Three**

***ASSIGNMENT ONE DUE***

**Reading:** Beer, Chapter 5

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**March 2**

**Organizations - Part One**

**Reading:** Beer, Chapter 6

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**March 9**

**Organizations - Part Two**

**Reading:** Beer, Chapter 7

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**March 16**

**Information Communication**

**Reading:** Beer, Chapter 8 & Appendix

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**March 23**

**Knowledge Management (Part One)**

***ASSIGNMENT TWO DUE***
March 30  Knowledge Management (Part Two)

April 6  Database Design Notation Techniques

April 13  Computer Ethics

April 20  Information Confidentiality & HIPAA


April 27  ***FINAL PAPER DUE***
Designing an Information System Improvement

The major project for this course is a paper comprised of 4 parts that will be completed over the course of the term. The purpose of the paper is to outline a plan for your agency to improve its information management system.

Overall Goal
The goal of this assignment is to stimulate the student to examine an organization in terms of its operations and its existing information system and to propose improvements to provide better data for making clinical, programmatic and managerial decisions.

The ‘Consultant’ Role
You should approach this assignment as if you are a consultant to the agency with special expertise in technology facilitated information access and retrieval. In this role you will:
1. model and metamodel the agency’s current information resources;
2. model and metamodel the agency’s decision-making processes;
3. identify barriers and facilitators to information acquisition for decision-making processes; and
4. outline a detailed plan indicating how each barrier will be addressed with modifications to their current information management system.

The quality of your work will be judged in terms of the clarity and comprehensiveness of the report. As a consultant, you are expected to take the initiative to define problem areas and to have suggestions which address those problems. It is expected that you will incorporate references from your readings integrated in your analysis and discussion. Finally, your report should look like a consultant produced it. Therefore, it should be SINGLE-SPACED with generous use of bullets, lists, tables, diagrams and appendices. You can use the APA format for your references or you can use the Footnote function in MS Word. Under no circumstance should your document look like an academic paper.

Part 1: Model and metamodel the agency’s information resources
Worth – 20 points
Length – 8 pages
Due – February 17

This first part describes the organizational context in which the information system improvement is to be undertaken. It should contain the following elements:

a) Brief description of the agency including its goals, functions, size, auspice and funding source(s).

b) Organizational structure including the lines of authority and communication. You should use the Beer model to illustrate your discussion. If the agency is part of a larger body, focus on the internal structure of the unit under consideration, but include an indication of the relevant organizational/administrative ties to the larger organization.

Describe the current information system in terms of how data are collected for different purposes and by whom. Focus on data collected about clients, services provided, and who provides them. Also include supervisory and managerial data about clients and those who provide services to clients. While financial accounting activities are a major aspect of agency databases (typically the largest facet), you should focus on service-related activities of the agency.

Include agency forms in your appendices. Such appendices are not counted in the page maximum.
Part 2: Model and metamodel the agency’s decision-making processes
Worth – 25 points
Length – ≈10 pages
Due – March 23

This component of your document identifies all decision-making processes in the organization. It should include decisions made at the:
   a) operational,
   b) tactical, and
   c) strategic levels of the organization

A necessary aspect of modeling these decisions involves the description of the:
   a) epistemologies
   b) ontologies, and
   c) time dimensions used by or constraining the various decision-makers

Part 3: Identify barriers and facilitators to information acquisition for decision-making processes
Worth – 25 points
Length – ≈10 pages
Due – April 6

This section of your document identifies all organizational processes related to:
   a) entropy,
   b) variety attenuation, and
   c) variety amplification

at the
   d) operational,
   e) tactical, and
   f) strategic levels of the organization

with notation of all internal and external organization boundaries and/or barriers.

Part 4: Overall Plan
Worth – 30 points
Length – ≈10 pages
Due – April 27

This final part is actually a compilation of the three parts that preceded it with the addition of a detailed plan indicating how each barrier will be addressed with modifications to their current information management system. You will identify changes to their system/processes which will improve the operation of the agency by making data and information more readily useable for decisions in the organization. Specific changes in data collection, storage, processing and access should be identified and examples given of how these changes would improve agency operation. Illustrations of possible changes in the agency’s database design will be shown using notational techniques.

Assess these recommendations in terms of the entropic, variety attenuation, and variety amplification processes in the organization at the operational, tactical, and strategic levels of the organization. Particular attention should be given to concerns related to power, diversity and gender related issues.