The course is designed to introduce students to basic concepts in the measurement of subjective states: attitudes, feelings, perceptions, function, beliefs or achievements. Topics are based on areas of importance in the design, development and validation of an instrument. In particular, considerable attention will be paid to concepts of reliability, validity and generalizability as they apply to instrument design.

CURRICULUM

Below is the approximate schedule. Inevitably we will not adhere rigorously to the schedule, but we will follow the sequence outlined.

Week

1  REVIEW OF STATISTICAL METHODS - ANOVA, Regression, Factor Analysis

   Readings - PDQ Statistics (Norman/Streiner, Decker 1986)
              (Chapters 5,6,15) in Health Sciences Bookstore
              - or any other stats book

2  DEVISING THE ITEMS

   Readings - Chapter 3 - Devising the Items

3  SCALING RESPONSES

   Readings - Chapter 4 - Scaling Responses
              - Chapter 6 - Biases in Responding
4 SELECTING ITEMS, ITEM ANALYSIS

Readings  - Chapter 5 - Selecting the Items
        - Chapter 7 - From Items to Scales

5 RELIABILITY

Readings  - Chapter 8 - Reliability

Supplemental
- Mitchell SK. Interobserver Agreement, Reliability, Generalizability, Psych Bull 86, 376-390, 1979

6 GENERALIZABILITY THEORY

Readings  - Chapter 9 - Generalizability Theory

Supplemental (handout in classs)

7 VALIDITY

Readings  - Chapter 10 - Validity

8 MEASURING CHANGE

Readings  - Chapter 11 - Measuring Change

9 ADMINISTRATION, RESPONSE RATES, ETC

Readings  - Chapter 13 - Methods of Administration

READINGS

The readings for the course are based on the "Health Measurement Scales: A Practical Guide", by Streiner/Norman, available in the Health Sciences bookstore. This will be supplemented by additional readings handed out in class, and supplemental textbooks

EVALUATION

The emphasis of the course is on principles of measurement, and not on
applications (e.g. IQ testing). However, your successful mastery of the course materials is evidenced by your ability to apply these principles to a problem area. Consequently, the final assignment for the course reflects the application of these principles to a domain of measurement. This can occur in two ways:

a) You can choose to conduct a literature review of an area of measurement, which can range from, for example, IQ tests to the measurement of health status in arthritis patients. The general approach would be to consider the existing and available instruments in terms of the evidence of reliability and validity, and to come to some conclusion about strategies and approaches.

This is only a general strategy. For some areas (like IQ in particular) the domain is too broad to approach this way, and you will have to choose a narrower question (e.g. the evidence for cultural bias in IQ testing).

b) You can choose to devise your own scale, to measure something of your own. The basic characteristic to be assessed can be a serious or as frivolous as you like (e.g. everything from learning styles to beer tasting). If you choose this route, you will be expected to devise a questionnaire and do some formal reliability and validity testing. Sample sizes are not important, nor is the choice of subjects, but it is important that you actually gather data and analyse it appropriately.

You can report the results of your efforts in either two ways as well:

a) A presentation in class, of about 15 minute duration, in one of the last 2-3 class periods. If a large number of students take this option, I reserve the right to select students who will present.

B) A hand-in assignment of 10-20 pages, double spaced. This will be copied and distributed to other students, and marked by the instructor and T/A.

Whatever you decide, you must get approval of the instructor before you proceed. You can phone, make an appointment, e-mail, or buy me a coffee.

This is in your own best interest, to ensure you are on the right track.

There will be three other methods of evaluation:

1) 2 assignments related to the final assignment, which will be handed out during the course, usually with a one to two week deadline.
2) A brief in-class midterm examination

3) A final two - hour multiple choice and short answer examination. This will cover the entire course, and the mark will be computed by taking a combination of right and wrong answers (R - W/4).

Overall course grade will be computed as:

\[(\text{Final exam} \times 40\%) + (\text{Midterm} \times 10\%) + (\text{Project} \times 30\%) + (\text{Assignments} \times 20\%) = \text{Total}\]

Scores will be assigned letter grades according to the usual schedule:

<table>
<thead>
<tr>
<th>Percent</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90-100</td>
<td>A+</td>
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<tr>
<td>85-89</td>
<td>A</td>
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<tr>
<td>80-84</td>
<td>A-</td>
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<tr>
<td>77-79</td>
<td>B+</td>
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<td>73-76</td>
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<td>70-72</td>
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<td>67-69</td>
<td>C+</td>
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Attention is drawn to the Statement on Academic Ethics and the Senate Resolutions on Academic Dishonesty as found in the Senate Policy Statements distributed at registration and available in the Senate office. Any student who infringes one of these resolutions will be treated according to the published policy.