StatLab
ANNUAL REPORT
2002-2003 Academic Year

Statistics Program
Food and Resource Economics
University of Delaware

Dr. Lidia Rejto, Associate Professor and Director
Dr. Tom Ilvento, Professor and Chair
Xiangrong Cai, StatLab Graduate Assistant
Pavel Nedanov, StatLab Graduate Assistant
Yihuan Xu, StatLab Graduate Assistant
INTRODUCTION
The purpose of this report is to briefly describe the activities of the StatLab during the 2002/2003 academic year. The StatLab (Statistical Laboratory) was first established at the University of Delaware in 1983. In the Spring of 1997, the lab closed its operation. In 2001 the Statistics Program left the Mathematics Department and moved into the Department of Food and Resource Economics. As part of this move the graduate program in statistics was re-established as was the StatLab. The StatLab is jointly supported by the Statistics Program of the Food and Resource Economics Department and Research and Data Management Services of the IT-User Services.

This report provides a brief summary of the role and services of the StatLab as well as a discussion of the activities of the lab in the 2002-2003 academic year.

OVERVIEW OF THE STATLAB
The StatLab provides statistical consulting services to graduate students, faculty, staff, and researchers throughout the university, as well as non-University agencies and companies. The StatLab is jointly supported by the Statistics Program of the Food and Resource Economics Department and Research & Data Management Services of the IT-User Services.

Our mission is:

- **Education**: to train students of the Statistics Program to interact effectively with investigators from a variety of disciplines

- **Research participation**: to enhance the quality of experimental and other research at the University by providing high-quality statistical advice

- **Collaboration**: to encourage collaborative research between statisticians and investigators from other disciplines both within and outside of the University of Delaware
The laboratory is staffed with a director and experienced graduate students. During the 2002/2003 academic year, Lidia Rejto served as director, during the Fall of 2003 Pavel Nedanov and Yihuan Xu and during the Spring of 2003 Xiangrong Cai were the StatLab Graduate Assistant. The secretarial support was provided by Vicki Taylor. An advisory committee, consisting of university statisticians, research methodologists from various disciplines, and subject matter specialists from industry provide additional support (see the list at the end of this report).

**Services of the Statistical Laboratory**

The StatLab is designed to help researchers in the use of effective and appropriate statistical techniques in the analysis of data, including assistance in:

- **Research Design** – Assistance prior to conducting research
- **Statistical Analysis** – Assistance in methods for analyzing data
- **Statistical Computing** – Assistance in the selection of statistical packages and interpretation of statistical output

The StatLab is organized to provide easily accessible, high quality statistical consulting services to university graduate students, faculty, staff, administration, and outside units. The primary focus is to further the learning and research activities of our clients. The staff helps clients design experiments, analyze data and interpret results. They also assist clients with the statistical components of research and grant proposals.

**RESULTS FROM THE ACADEMIC YEAR 2002/2003**

Spring 2002 was the first time the StatLab was opened since 1997. In preparation for the opening of the StatLab, the Statistics Program wrote a mission statement, established policy, advertised on the UD Campus, and designed a web site with the relevant materials ([http://www.udel.edu/FREC/STATLAB/](http://www.udel.edu/FREC/STATLAB/)). The Appendix contains the basic fact sheets for the StatLab.

One unique aspect of the current StatLab is that we are partnering with Data Management Services of the IT-User Services. The arrangement allowed us to use the facilities in Smith Hall as well as draw on Data Management Services for the clients. We are grateful for the cooperation and assistance of Dick Sacher and H. Larry Hotchkiss.

During 2002/2003 the StatLab assisted with 33 projects from 12 faculty, 17 graduate students and 4 outside clients. We served 19 units from 6 colleges within the University of Delaware and in addition, we assisted with projects of the Delaware Health and Social Services, Division of Public Health, of the Christiana Spine Center, of International Data Corporation and of the Bailey Associates.

**Overview of 2002/2003 Projects**

A wide variety of statistical techniques were used in the 33 projects, including linear and nonlinear regression, design of experiments, principal component analysis, logistic regression, and time series analysis. Computer packages used include: SAS, S-Plus, Minitab and SPSS. A full description of the projects was listed in Table 1 below.
The most interesting projects were reviewed in the StatLab Review Session (STAT 641). This is a seminar-type class, which is required for all graduate students. The purpose of the seminar is two-fold. First, it provides an opportunity to teach students applications of statistics in real world situations with a range of clients. The StatLab Review Session also provides valuable input into the recommendations from the StatLab. Students, faculty, and industry statisticians all participate in the seminar and provide ideas and suggestions to the clients. As such, the session provides an excellent way to introduce our program and students to the surrounding community. This Spring a former PhD student of the statistics program Devan V. Mehrotra, Director of Biostatistics at Merck Research Laboratories met with the students and gave a talk in a StatLab review session about his work.

The following is a brief summary of some of the projects brought to the StatLab sessions.

One of the most interesting projects was brought to us by Meredith Blades, a graduate student from Marine Studies. Her goal was to compare the number of boat accidents in jettied vs. non-jettied inlets along the East Coast from New York to Florida. We suggested her to use a stochastic model based on Poisson distribution and several visualization of the data set were suggested. Diccon Bancroft from Gore & Associates helped to assist the client.

Another interesting project was brought to us by Bill Farquhar from Health and Exercise Sciences. The purpose of his study is to determine if infusion induced changes in blood sodium concentration alter indices of sympathetic activity in healthy humans and to determine if it differs in those in essential hypertension. To a final experimental design we suggested to use initial sample to determine variances for the actual sample sizes. The client submitted a grant proposal including funds for the StatLab.

Andrew Wilson, a graduate student in Entomology conducted a study to assess the impact of herbicide application timing on the European corn borer. We concerned that the collected sample size was far too small, but we were able to suggest him a nonparametric method, Wilcoxon rank sum statistics, to analyze the data. Mike Free helped to assist the client.

Janine Haynes from Plant and Soil Sciences. She is comparing the effects of two types of beneficial bacteria, a mutant and a wild type, living in a symbiotic relationship with peas. A two-way Analysis of Variance approach was suggested to the client.

We did seek to get an evaluation from each of the clients to the StatLab to obtain their level of satisfaction with the services and to determine areas where we can improve. Overall the personal comments from clients were very positive. However, the evaluation is voluntary and we received only nine responses. On a scale of 0 to 9, seven of the respondents rated our usefulness in terms of helping them solve their problem 9, one for 8 and one for 7. We will seek to increase the response rate of the evaluation form in the future. We welcome comments and suggestions from users and others in the University community concerning our services and will continue to seek ways in which we can improve.
Table 1: Summary of StatLab Projects from the Academic Year 2002/2003

<table>
<thead>
<tr>
<th>No.</th>
<th>Client</th>
<th>Department</th>
<th>Time</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bonnie R Albertson, UD staff</td>
<td>Delaware Center for Teacher Education, CHEP</td>
<td>20 hours</td>
<td>Efficacy study of formulaic writing in high-stakes writing assessments.</td>
</tr>
<tr>
<td>2</td>
<td>Eun-Kyung Sun, PhD student</td>
<td>Linguistics, College of Arts and Sciences</td>
<td>11 hours</td>
<td>Production and perception of flaps in American English and Korean.</td>
</tr>
<tr>
<td>3</td>
<td>Chad M. Gruhl, PhD student</td>
<td>Education, CHEP</td>
<td>4 hours</td>
<td>Compulsory attendance policies in higher education.</td>
</tr>
<tr>
<td>4</td>
<td>Andrew Wilson, MS student</td>
<td>Entomology, College of Agriculture and Natural Resources</td>
<td>6 hours</td>
<td>The impact of herbicide application timing on the European corn borer.</td>
</tr>
<tr>
<td>5</td>
<td>Marci Drees</td>
<td>Delaware Health and Social Services</td>
<td>60 hours</td>
<td>Study of Delaware infant mortality between 1993 and 2000.</td>
</tr>
<tr>
<td>6</td>
<td>Julie Marley</td>
<td>Christiana Spine Center</td>
<td>6 hours</td>
<td>Comparison of the use of intrathecal morphine with intravenous and oral one for post-operative pain control.</td>
</tr>
<tr>
<td>7</td>
<td>Tao Cheng, PhD student</td>
<td>Civil and Environmental Engineering</td>
<td>4 hours</td>
<td>Establish a model to predict free Zn concentration.</td>
</tr>
<tr>
<td>8</td>
<td>Mark Richardson, MS student</td>
<td>Plant Sciences College of Agriculture and Natural Resources</td>
<td>6 hours</td>
<td>C/N ratio and the competitive ability of the exotic invasive weed allaria petolata (garlic mustard).</td>
</tr>
<tr>
<td>9</td>
<td>Cindy Sobasky, MS student</td>
<td>Longwood Graduate Program, College of Agriculture and Natural Resources</td>
<td>3 hours</td>
<td>Study to examine the relationship between interactivity and visitors interest in public children’s garden.</td>
</tr>
<tr>
<td>10</td>
<td>Christine Bloom, MS student</td>
<td>Animal Science, College of Agriculture and Natural Resources</td>
<td>6 hours</td>
<td>Determine gene expression profiles in chicken after Marek’s disease vaccination.</td>
</tr>
<tr>
<td>11</td>
<td>Ali A. Poorani, UD faculty</td>
<td>Hotel Restaurant Management, CHEP</td>
<td>5 hours</td>
<td>Survey design to learn about the success factors of the spa industry.</td>
</tr>
<tr>
<td>No.</td>
<td>Client</td>
<td>Department</td>
<td>Time</td>
<td>Project</td>
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</tr>
<tr>
<td>12</td>
<td>James C. Galloway &lt;br&gt;UD Faculty</td>
<td>Physical Therapy, College of Arts and Sciences</td>
<td>9 hours</td>
<td>To test specific hypothesis about how infants learn to control joint dynamics of early limb movements.</td>
</tr>
<tr>
<td>13</td>
<td>Michele Rosen</td>
<td>International Data Corporation</td>
<td>8 hours</td>
<td>To develop model in order to estimate and forecast the number of professional developers on 178 countries.</td>
</tr>
<tr>
<td>14</td>
<td>Bill Farquhar &lt;br&gt;UD faculty</td>
<td>Health and Exercise Sciences, College of Health and Nursing Sciences</td>
<td>6 hours</td>
<td>Sympathetic-Osmotic interactions in humans.</td>
</tr>
<tr>
<td>15</td>
<td>David Metzler, MS student &lt;br&gt;Advisor: H.E.Allen</td>
<td>Civil and Environmental Engineering</td>
<td>2 hours</td>
<td>Study of the effect of cadmium exposure on algae.</td>
</tr>
<tr>
<td>16</td>
<td>Katie Elzer, MS student &lt;br&gt;Advisor: J.Swasey</td>
<td>Longwood Graduate Program, College of Agriculture and Natural Resources</td>
<td>2 hours</td>
<td>To identify trends in planned giving program management in botanical gardens.</td>
</tr>
<tr>
<td>17</td>
<td>Xiaofei Wang &lt;br&gt;UD staff</td>
<td>Animal Science, College of Agriculture and Natural Resources</td>
<td>20 hours</td>
<td>Identify differentially expressed genes in chicken liver cells in case of thyroid and/or growth hormone manipulations.</td>
</tr>
<tr>
<td>18</td>
<td>Richard Garvine, UD faculty</td>
<td>Marine Studies</td>
<td>2 hours</td>
<td>Statistical model of the response of subtidal frequency sea-level to wind forcing.</td>
</tr>
<tr>
<td>19</td>
<td>Janine Haynes, UD faculty</td>
<td>Plant Science College of Agriculture and Natural Resources,</td>
<td>20 hrs</td>
<td>Phenotypic assessment of root nodule formulation by a mutant strain of Rhizobium leguminosrum.</td>
</tr>
<tr>
<td>20</td>
<td>Larry Cogburn, Xiaofei Wang &lt;br&gt;UD faculty</td>
<td>Animal Science, College of Agriculture and Natural Resources</td>
<td>60 hours</td>
<td>Compare RT-PCR. Gene expression measurements with microarray measurements in growth hormone manipulated chickens.</td>
</tr>
<tr>
<td>21</td>
<td>Melissa A. Houlette &lt;br&gt;PhD student &lt;br&gt;Advisor: S.Gaertner</td>
<td>Psychology College of Arts and Sciences</td>
<td>14 hours</td>
<td>Effects of time pressure, task type and information distribution on intergroup bias and group decision accuracy.</td>
</tr>
<tr>
<td>22</td>
<td>Karen Bauer &lt;br&gt;UD staff</td>
<td>Office of Undergraduate Studies</td>
<td>13 hours</td>
<td>Longitudinal study examining undergraduate research.</td>
</tr>
<tr>
<td>No.</td>
<td>Client</td>
<td>Department</td>
<td>Time</td>
<td>Project</td>
</tr>
<tr>
<td>-----</td>
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<td>---------</td>
</tr>
<tr>
<td>23</td>
<td>Bill Bayley</td>
<td>Bailey Associates</td>
<td>10 hours</td>
<td>Quantitative estimate of net demand of senior living nursing home.</td>
</tr>
</tbody>
</table>
| 24  | Meredith Blaydes  
MS student  
Advisory: J.Firestone | College of Marine Studies | 9 hours | Analysis the frequency and severity of accidents in jettied vs. non-jettied inlets of the US from New York to Florida. |
| 25  | Tim Parosky, MS student  
Advisor: M.P.Craig | Health and Exercise Sciences, College of Health and Nursing Sciences | 8 hours | The effect of extended upper body flexibility training for post coronary artery bypass patients. |
| 26  | Anna E. Klene  
PhD student  
Advisor: F.E.Nelson | Geography College of Arts and Sciences | 7 hours | The Barrow urban heat island study. |
| 27  | Ling Liu, MS student  
Advisor: T.Ilvento | FREC College of Agriculture and Natural Resources | 4 hours | The impact of data collection technology within a self-administered survey on response rate, cost and data quality. |
| 28  | Preethi Natarajan, MS student  
Advisor: D.Heider | Center for Composite Materials, College of Engineering | 3 hours | Analyzing quality of composite parts. |
| 29  | Mark Highland, MS student  
Advisor: J.E.Swasey | Longwood Graduate Program, College of Agriculture and Natural Resources | 3 hours | Compost production and utilization at Longwood Garden. |
| 30  | Marie Kuczmarski  
UD faculty | Nutrition and Dietetics, College of Health and Nursing Sciences | 2 hours | Preliminary suggestions for statistical analysis of “Pathway to Health” program. |
| 31  | Carroll E. Izard  
UD faculty | Psychology, College of Arts and Sciences | 1 hour | Infant emotion developmental changes. |
| 32  | Kathie Guhl, PhD student  
Advisor: J.Sherrier | Plant Sciences, College of Agriculture and Natural Resources | 1 hour | Design of experiment to demonstrate the initiation and maintenance of root cell tissue development. |
| 33  | George Malone  
UD staff | Cooperative Extension, College of Agriculture and Natural Resources | 1 hour | Evaluate data set on poultry breading. |
### TABLE 2: LIST OF PROJECTS BY UNIT, Academic Year 2002/2003

<table>
<thead>
<tr>
<th>University/Outside Units</th>
<th>Client Requests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and Natural Resources</td>
<td></td>
</tr>
<tr>
<td>Animal and Food Science</td>
<td>3</td>
</tr>
<tr>
<td>Cooperative Extension</td>
<td>1</td>
</tr>
<tr>
<td>Entomology and Applied Ecology</td>
<td>1</td>
</tr>
<tr>
<td>FREC</td>
<td>1</td>
</tr>
<tr>
<td>Longwood Graduate Program in Public Horticulture</td>
<td>3</td>
</tr>
<tr>
<td>Plant and Soil Sciences</td>
<td>3</td>
</tr>
<tr>
<td>Arts and Sciences</td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td>1</td>
</tr>
<tr>
<td>Linguistics</td>
<td>1</td>
</tr>
<tr>
<td>Physical Therapy</td>
<td>1</td>
</tr>
<tr>
<td>Psychology</td>
<td>2</td>
</tr>
<tr>
<td>College of Engineering</td>
<td></td>
</tr>
<tr>
<td>Civil and Environmental Engineering</td>
<td>2</td>
</tr>
<tr>
<td>Center for Composite Materials</td>
<td>1</td>
</tr>
<tr>
<td>Health and Nursing Sciences</td>
<td></td>
</tr>
<tr>
<td>Health and Exercise Sciences</td>
<td>2</td>
</tr>
<tr>
<td>Nutrition and Dietetics</td>
<td>1</td>
</tr>
<tr>
<td>Human Services Education and Public Policy</td>
<td></td>
</tr>
<tr>
<td>Delaware Center for Teacher Education</td>
<td>1</td>
</tr>
<tr>
<td>Education</td>
<td>1</td>
</tr>
<tr>
<td>Hotel Restaurant and Institutional Management</td>
<td>1</td>
</tr>
<tr>
<td>Marine Studies</td>
<td>2</td>
</tr>
<tr>
<td>Office of Undergraduate Studies</td>
<td>1</td>
</tr>
<tr>
<td>Outside Clients</td>
<td></td>
</tr>
<tr>
<td>Christiana Spine Center</td>
<td>1</td>
</tr>
<tr>
<td>Delaware Health and Social Services</td>
<td>1</td>
</tr>
<tr>
<td>International Data Corporation</td>
<td>1</td>
</tr>
<tr>
<td>Bailey Associates</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
</tr>
</tbody>
</table>
Costs of StatLab Services

The Statistical Laboratory was designed for multiple purposes, including instruction of Statistics MS students and to provide a service for the statistical needs of campus and the region. Currently, there is no funding for the services of the laboratory other than funds provided by the Department of Food and Resource Economics. The goal of the StatLab is to provide free consultation services for up to two visits. However, users are encouraged to pay for services if they have funds available and are required to pay for and consultations that go beyond two visits or require analysis by the staff of the StatLab. These stipulations are included in the Request for Statistical Consulting form (see Appendix).

During the 2002-2003 academic year we estimated 1,324 person hours contributed to the StatLab from the projects, hours of operation, seminars, and the Director and the Graduate Students. The department contributed the graduate assistantships, a computer, printer, and software, and additional resources totaling approximately $28,000. The breakdown of this effort is given in Table 3.

Table 3: Person Hours Contributed to the StatLab, Academic Year 2002-2003

| Hours of operation (2 x a week, 4 hrs each) | 224 hours |
| Director's time | 224 hours |
| Additional Graduate Student Time | 283 hours |
| Seminar Time | 260 hours |
| Projects | 333 hours |
| TOTAL | 1,324 hours |

We are especially pleased to assist users with the preparation of the statistical components of grant applications. This semester two of our clients included StatLab support in their grant proposal, and we had one UD and one outside client who paid for our services. We believe that grants will provide a significant source of future revenue to the StatLab. We believe a well-planned statistical design and outline of the analytic procedures could increase the chances of funding a grant proposal.

An important source of learning experience for the students and of financial support for the Statistics Program is internship and corporate associate internship program. DuPont internships were granted for the 2002/03 academic year for two statistics students; they are C. Fan and S. Cho. and for X. Cai and Y. Xu internship granted for the year of 2003. During the academic year L. Xiao, was a corporate intern for the Gore & Associates, P. Nedanov was a corporate intern in First U.S.A, and H. Li was a corporate intern at AstraZeneca. We continue to investigate the possibility of closer ties with other companies in the nearby area. We also continue to investigate the possibilities of joint grant proposals with the other colleges and departments within the University of Delaware.
ACKNOWLEDGMENTS

The Director appreciates the strong support and help of Thomas Ilvento, Chair of the Food and Resource Economics Department. Without his help we would not be able to provide this service. The Director acknowledges the assistance of Dick Sacher and Larry Hotchkiss of Research and Data Management Services of the IT-User Services. The Director acknowledges the assistance of the Advisory Committee, who provides a variety of extra assistance for our clients (see Table 4). The Director highly appreciates the help of Vicki Taylor. Her patience taking the phone calls of the clients and organizing the schedule of the StatLab was an important component of our successful work.
### TABLE 4: STATISTICAL LABORATORY ADVISORY COMMITTEE, ACADEMIC YEAR 2002-2003

Bancroft, Diccon, M.S. Yale University; Statistician, W. L. Gore & Associates, Statistical applications, experimental design, and survival analysis.

Eggermont, Paul, Ph.D., SUNY Buffalo; Associate Professor, Statistics Program, FREC Department, Nonparametric estimation, statistical computing, regression.

Free, Spencer M., Jr., Ph.D., North Carolina State University; Biostatistics Consultant.

Ilvento, Thomas, Ph.D., Pennsylvania State University; Chair and Professor, FREC Department, regression methods, survey methodology, social demography.

LaRiccia, Vincent N., Ph.D., Texas A & M University; Associate Professor, Statistics Program, FREC Department, Goodness-of-fit, parameter estimation and testing, order statistics, EDA, and regression.

Mason, David M., Ph.D., University of Washington-Seattle; Professor, Statistics Program, FREC Department, Goodness-of-Fit, order statistics nonparametric statistics, time series.

Pesek, John D., Ph.D., University of Michigan; Associate Scientist, Statistics Program, FREC Department, Agricultural statistics and design of experiments, and analysis of variance.

Sacher, Richard, Ph.D., Stanford; Manager, Research and Data Management Services of the IT-User Services. Scientific Computing, statistical computing, mathematical optimization, linear and non--linear regression.

Schiffelbein, Paul A., Ph.D., University of California, San Diego; Statistical Consultant, QMTC DuPont Engineering, experimental design, EDA, statistical process control, regression analysis.

Thorpe, Daniel, Ph.D., University of Wisconsin, Madison; Statistician, W. L. Gore & Associates.
APPENDIX

Documents and Policy Connected with the StatLab, Academic Year 2002-2003
Statistics Laboratory

Policies and Procedures

The StatLab is designed to help researchers on campus and in the Delmarva Region in the use of effective and appropriate statistical techniques in the analysis of data. The StatLab is jointly supported by the Statistics Program of the Food and Resource Economics Department and Research & Data Management Services of the IT-User Services. We have limited resources so we need to establish terms of services and charges for extended service to clients. All proceeds for the STAT Lab go back into the lab to fund students, software, and other supplies. The following is our guidelines for use of the STAT Lab:

**Initial Consultation**  No charge provided the client completes the necessary forms.  

The StatLab consultant meets with the client and discusses the statistical problem and other relevant information. The emphasis on this visit is to get all the required information concerning the research, data, and potential analysis. In some cases a solution may come from this visit. The client is required to complete a “Request for Statistical Consulting Form” prior to scheduling an appointment. The relevant forms can be found on our web site:  http://www.udel.edu/FREC/STATLAB

**Second Consultation**  No charge if no other funds are available. After the initial consultation we reserve the right to charge the client if funding is available from grants or project money  

This is an extended discussion on suggested design, techniques, interpretation, or dealing with statistical problems. Some time may be spent working on the problem by Statistical Consultants or the Director prior to the consultation. We hope that many problems will be satisfactorily addressed by the second visit.

**Additional Consultations**  Additional work may require fees. We reserve the right to charge the client for additional work if funds are available from grants or project money.  

Issues that require extended work will require support from the client. We will discuss with the client the fees for additional work before moving forward. If the client wishes assistance in data analysis, data manipulation, or collection of the data, it will require a formal contract and funding of Graduate Research Assistants in the Statistics Program.

**Please note:** The StatLab is not designed to teach statistics or serve as a tutor for graduate students. We expect clients to have some background in applied statistics before coming to the lab with questions. We can offer suggestions on resources to help learn statistics or courses that we offer at the undergraduate and graduate level to build skills in statistics.
Use of information in StatLab Review Session (STAT 641)
With permission of the client, some research problems that come to the StatLab will be discussed in the StatLab Review Session. The StatLab Review Session is a once a week seminar during Fall and Spring semesters where graduate students, faculty, and other statisticians meet to discuss interesting statistical problems that come to the StatLab. The client also is invited to attend these sessions. All information will be kept confidential to the extent possible.

Priorities in consulting
From time-to-time the StatLab will need to establish priorities for work depending on the caseload and available limited resources. First priority will be given to paid projects, followed by projects from within the University of Delaware. Clients will be notified if any delays in serves are expected.

StatLab Services are available only during the Fall and Spring semesters at the University of Delaware.

The StatLab assistance is available at the following times and location:

- Monday 1:00 to 5:00 201 Townsend Hall
- Wednesday 8:00 to 12:00 201 Townsend Hall

To get assistance Statistical consultation is available by appointment only.

Users are requested to submit a brief written statement of the problem to the Laboratory prior to scheduling an appointment. A form is available on our web site and can be mailed, faxed, or attached to an email.

Please send to:

StatLab
213 Townsend Hall
Newark, DE 19717
Voice: 302-831-2512
Fax: 302-831-6243
For e-mails send to: Vicki Taylor (vtaylor@udel.edu) or Dr Lidia Rejto (rejto@udel.edu)
Statistical Laboratory

StatLab
Fall 2003 Schedule

The Statistical Laboratory (StatLab) is currently open for Fall 2003. The StatLab provides statistical consulting services to graduate students, faculty, staff, and researchers throughout the University, as well as non-University agencies and companies. The StatLab is jointly supported by the Statistics Program and Research & Data Management Services of the IT-User Services.

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Statistical Analysis – Assistance in identifying methods for analyzing data
Statistical Computing – Assistance in the selection of statistical packages and interpretation of statistical output

Users are strongly encouraged to visit the Statistical Laboratory prior to collecting their data or attempting to conduct an analysis.

To Get Assistance
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The STAT Lab assistance is available during Fall Semester 2003 at the following times and location

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>1:00 to 5:00</td>
<td>201 Townsend Hall</td>
</tr>
<tr>
<td>Wednesday</td>
<td>8:00 to 12:00</td>
<td>201 Townsend Hall</td>
</tr>
</tbody>
</table>

To schedule an appointment call 302-831-2511 or email vtaylor@udel.edu
To get more information contact Dr. Lidia Rejto at 302-831-8034.
REQUEST FOR STATISTICAL CONSULTING

STATISTICAL LABORATORY

213 Townsend Hall   Newark, DE   19717

Name: ___________________________ Date: ___________________________

Address: ___________________________ Dept./Agency: ___________________________

College: ___________________________ Telephone: ___________________________

Requestor Status  Faculty  Staff  Student  Outside UD

For students,Advisor’s name: ____________________________________________

Advisor Signature: ____________________________________________

Project Title:

Abstract: Please attach a one-page abstract or summary of the project to brief the consultant on the nature of the problem. Use the following questions to help organize your abstract:

• What are your research objectives?
• Do you have specific hypotheses to test?
• What factors are important in the study design?
• How will the data be collected?

Please attach any graphs, plots or summary tables which would help the consultant to understand the research problem.

SERVICE AND PAYMENT OPTIONS

· Funds are available from the following source: _________________________________.
  I request a meeting with a faculty member or staff consultant.

· Funds are not available at this time. I request free consultation (maximum two sessions) as available from the statistical consultants,

· I request a meeting with faculty or staff consultant to discuss collaboration leading to joint publications and/or grant proposals including funds for statistical consulting.

___________________________________
Signature
STATLAB EVALUATION FORM

I am a:  
Student ☐  Faculty ☐  Staff ☐  Visitor ☐

My department or agency:  __________________________________________

A. How difficult it will be for you to carry out the StatLab’s advice?
   1  2  3  4  5  6  7  8  9
   Very Easy  Very Hard

B. How much prior experience have you had with the statistical procedure recommended to you by the StatLab?
   1  2  3  4  5  6  7  8  9
   Very Little  Quite a Lot

C. How well did the StatLab consultant perceive your statistical background?
   1  2  3  4  5  6  7  8  9
   Underestimated  Overestimated

D. How effective were the StatLab consultants in explaining their recommendations?
   1  2  3  4  5  6  7  8  9
   Ineffective  Effective

E. How would you rate the statistical competence of the StatLab consultant?
   1  2  3  4  5  6  7  8  9
   Novice  Expert

F. How confident was the consultant in the recommendations made?
   1  2  3  4  5  6  7  8  9
   Unsure  Confident

G. How do you feel about the overall usefulness of the StatLab in helping you solve your problem?
   1  2  3  4  5  6  7  8  9
   Not Helpful  Very Helpful

H. Please use the back of this sheet for additional comments.

Please return it to: Vicki Taylor, Statistical Laboratory,  
Department of FREC, 213 Townsend Hall
The Department of Food and Resource Economics
College of Agriculture and Natural Resources
University of Delaware

The Department of Food and Resource Economics carries on an extensive and coordinated program of teaching, organized research, and public service in a wide variety of the following professional subject matter areas:

**Subject Matter Areas**

- Agricultural Finance
- Agricultural Policy and Public Programs
- Environmental and Resource Economics
- Food and Agribusiness Management
- Food and Fiber Marketing
- International Agricultural Trade
- Natural Resource Management
- Operations Research and Decision Analysis
- Price and Demand Analysis
- Rural and Community Development
- Statistical Analysis and Research Methods

The department’s research in these areas is part of the organized research program of the Delaware Agricultural Experiment Station, College of Agriculture and Natural Resources. Much of the research is in cooperation with industry partners, other state research stations, the USDA, and other State and Federal agencies. The combination of teaching, research, and service provides an efficient, effective, and productive use of resources invested in higher education and service to the public. Emphasis in research is on solving practical problems important to various segments of the economy.

The department’s coordinated teaching, research, and service program provides professional training careers in a wide variety of occupations in the food and agribusiness industry, financial institutions, and government service. Departmental course work is supplemented by courses in other disciplines, particularly in the College of Agriculture and Natural Resources and the College of Business and Economics. Academic programs lead to degrees at two levels: Bachelor of Science and Masters of Science. Course work in all curricula provides knowledge of tools and techniques useful for decision making. Emphasis in the undergraduate program centers on developing the student’s managerial ability through three different areas, Food and Agricultural Business Management, Natural Resource Management, and Agricultural Economics. The graduate program builds on the undergraduate background, strengthening basic knowledge and adding more sophisticated analytical skills and business capabilities. The department also cooperates in the offering of an MS and Ph.D. degrees in the inter disciplinary Operations Research Program. In addition, a Ph.D. degree is offered in cooperation with the Department of Economics.

For further information write to: Dr. Thomas W. Ilvento, Chair
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