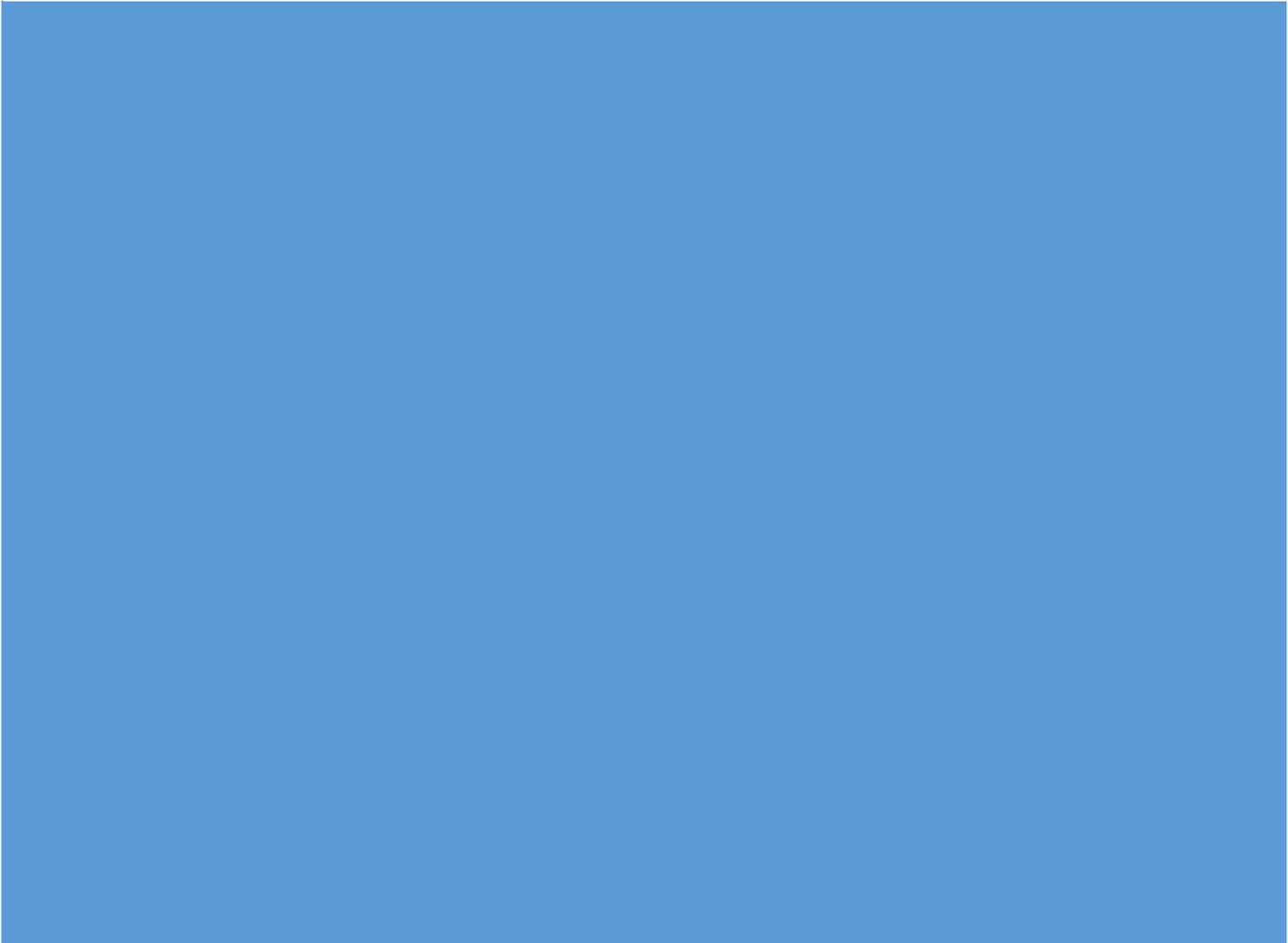




**MS IN BIostatISTICS
STUDENT HANDBOOK**



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“This School of Public Health is founded on a commitment – a commitment to public health as social justice. We see health not as a privilege, but as a right.”

Jonathan Mann, MD, MPH - April 20, 1998

I. INTRODUCTION

A. Overview of the MS in Biostatistics Program

The goal of the MS Program in Biostatistics is to provide students with a thorough understanding of biostatistical methods and strong computational skills and to show them how to apply these to research focusing on health related problems. The program prepares students for handling the quantitative and computational aspects of a research project, including study design, data collection and management, developing analysis plans, and conducting analyses and reporting findings. The program provides students with knowledge in statistical theory and computational methods as applied to biomedical and public health research.

Upon graduation MS students will attain competencies in the following three areas: general public health knowledge; biostatistics knowledge; data management and computing skills.

B. General public health knowledge

- Understand the general history of epidemiology and public health, know the principles of screening and disease surveillance, understand the global, cultural, and social context of health problems and how these influence research and practice.
- Be familiar with principles of prevention, intervention and evaluation.

C. Biostatistics knowledge

- Apply biostatistical methods and principles to the design of experimental and observational studies with respect to sample selection, randomization, and power.
- Apply common probability distributions to public health outcomes.
- Use statistical techniques including descriptive statistics, data exploration, estimation, hypothesis testing, and modeling.
- Perform statistical analysis using linear regression, logistic regression, Poisson regression, Cox model for survival data, mixed effects and generalized estimating equations for longitudinal and clustered data.
- Design and analyze basic types of clinical trials.
- Communicate effectively to public health practitioners in terms of formulating research problems and interpreting statistical results.
- Critique the study design and analysis sections of biomedical and public health research publications.
- Demonstrate knowledge of the ethical issues in research, specifically those pertaining to data

access, protection, and confidentiality.

D. Computing and data management

- Program effectively in two statistical software packages, (most commonly SAS and R).
- Develop databases and establish quality controls, using software for database set-up and data entry.
- Prepare datasets appropriate for analyses, which includes creating new variables, merging and cleaning data sets, transforming data to longitudinal format and selecting appropriate subsets.
- Generate publication-quality graphs and presentations.
- Conduct simple statistical simulations.

Drexel University and the Dornsife School of Public Health have long-standing commitment to an experiential learning philosophy. Consistent with this, the MS Biostatistics program includes a culminating data analysis project (described below) performed under the mentorship of a biostatistician who works in a setting outside the Department (with co-mentorship by a Department faculty biostatistician). Through this project, our students will come to appreciate how biostatistics is applied in real-world settings. In addition, the student's faculty mentor will encourage the student to consider how their project, and the discipline of biostatistics in general, connects to broader issues in public health.

II. Degree Requirements

Completion of the Master of Science in Biostatistics will require:

- 1) A minimum of 52 credit hours of course work as prescribed below;
- 2) A cumulative grade point average of 3.0 or higher; After each quarter in which a student fails to achieve a B (3.00) cumulative Grade Point Average, the student will be placed on academic probation and notified in writing by the University Dean of Students. Any student whose cumulative grade point average for two consecutive quarters is less than 3.00 will be dismissed from the Dornsife School of Public Health, unless a waiver is approved by the Dean of the Dornsife School of Public Health. All decisions are subject to appeal to the Student Academic Appeals Committee of the University. A graduate student about to be dismissed for academic reasons may be given the opportunity to withdraw voluntarily from the Dornsife School of Public Health before final action is taken. The student must meet with the Associate Dean for Academic and Faculty Affairs, complete the form for University Withdrawal, and follow the procedure outlined on the form.
- 3) A substantial data analysis project (6 credit hours) with a written report (30-50 pages not including appendices or citations) and an oral presentation with power point slides.

A. Credit Load

The MS Biostatistics program is designed to be a full-time program. Full-time students must register for a minimum 9 credits.

B. Course Work

The full-time MS in Biostatistics requires a total of 58 quarter credit hours as follows:

- (1) Public health introductory course
- (2) 36 credit hours of biostatistics courses;
- (3) 7 hours of epidemiology courses;

(4) 6 credit hours of elective courses (5) Data Analysis Project - described in section C (6 credit hours)

An electronic version of the 2016 – 2017 academic calendar is available at the following web address: www.drexel.edu/provost/calendars/index.html

C. Data Analysis Project

The student will perform a substantial data analysis project as a culminating experience under the supervision of a Department faculty member. We encourage students to pursue projects based in outside sponsoring organizations. Sponsoring organizations may include healthcare facilities, government agencies, non-profit organizations, health insurance companies, consulting firms, pharmaceutical companies, and other academic departments. Projects based in outside organizations need to have a doctorally-prepared on-site supervisor identified in the outside organization. The project needs to be approved by the faculty advisor in consultation with the on-site supervisor.

Via this project, the student shall demonstrate the following competencies:

- (1) clearly understand the substance of scientific problems and be able to formulate them quantitatively
- (2) be able to organize, enter in computer and manipulate data in a form ready for analysis
- (3) choose appropriate statistical methods and understand the strengths and limitations of different methods
- (4) conduct high quality data analysis that can stand review and criticism; and
- (5) communicate the work in a clear and logical report and oral presentation

All Data Analysis projects will require approval from the Drexel University Institutional Review Board (IRB) under Category 4 Research. Your project can be reviewed under this category based on data from studies involving human subjects (you will want to receive de-identified data). The data set can include an ID linkable by the owner of the data (your advisor or a collaborating investigator) back to personal identifiers - but you should not be able to make that link yourself. Under most circumstances, you should be able to have your data sets created so as to allow the project to be submitted as exempt research.

To assure adequate time to properly plan for the placement and to facilitate smooth completion of the project, the student and faculty advisor (involving, if applicable, the on-site supervisor) need to come to agreement on the project plan by the in the winter quarter of the second year. If the student will be placed in an outside organization, a placement agreement needs to be completed and signed by this time. At the end of the data analysis project, each student shall submit a written report of the project. The report should in general be 30-50 pages long (not including appendices or citations) and consist of competency in the following:

- (1) Research question and background;
- (2) Study design and data structure;
- (3) Consideration of alternative statistical methods;
- (4) Statistical methods used and data analyses conducted;
- (5) Results and interpretation; and
- (6) Discussion and conclusion.

The student will be required to present a 25-30 minute talk on the project to the Department, complete with a power point presentation. The Data Analysis Project is grading as credit/ no credit.

III. Curriculum**A. Biostatistics MS Program – 2 Year Course Sequence**

The grid below outlines the typical sequence for full-time students in the MS Biostatistics program.

Year	Fall Quarter	Winter Quarter	Spring Quarter
1	Linear Statistical Models (3 credits) PBHL 698	Statistical Inference 2 (3 credits) PBHL 684	Elective (3 credits)
	Introduction to Public Health (3 credits) PBHL 516	Advanced Clinical Trials (3 credits) PBHL 683	Generalized Linear Models (3 credits) PBHL 697
	Introduction to Statistical Computing (3 credits) PBHL 623	Principles of Epidemiology (4 credits) PBHL 530	Advanced Statistical Computing (3 credits) PBHL 686
	Statistical Inference 1 (3 credits) PBHL 622		
	12 credits	10 credits	9 credits
2	Survival Data Analysis (3 credits) PBHL 628	Longitudinal Data Analysis (3 credits) PBHL 625	PBHL 685 Data Analysis Project (6 credits)
	Intermediate Epidemiology (3 credits) PBHL 630	Nonparametric and Semiparametric Models (3 credits) 696	
	Applied Multivariate Analysis (3 credits) PBHL 631	Biostatistical Consulting (3 credits) 695	Elective (3 credits)
	9 credits	9 credits	9 credits

B. Required Public Health Course

PBHL 516 Introduction to Public Health (3 credit hours)

Introduces and investigates the history, issues, function and context of public health, community health and health systems.

C. Required Biostatistics Courses

It is anticipated that most students beginning the program will have completed an introductory statistics course at the undergraduate or graduate level. However, the program can admit otherwise qualified applicants who have not yet completed an introductory statistics course.

PBHL 698 Linear Statistical Models (3 credit hours)

The objective of this course is to introduce students to linear regression models (computation, theoretical properties, model interpretation and application). Topics include: 1) Review of basic concepts of matrix algebra that are particularly useful in linear regression, and basic R programming features; 2) (weighted) least square estimation, inference and testing; 3) regression diagnostics, outlier influence; 4) variable selection and robust regression.

PBHL 697 Generalized Linear Model (3 credit hours)

The objective of this course is to introduce students to generalized linear regression models (theoretical properties, model interpretation and application). Topics include: 1) Review of categorical data and related sampling distributions; 2) Two/Three-way contingency tables; 3) logistic regression and poisson regression; 4) loglinear models for contingency tables; 5) generalized linear mixed models for categorical responses.

PBHL 622 Statistical Inference I (3 credit hours)

This course introduces probability and biostatistics theory. Topics include the basic concepts of probability including Bayes theorem; probability distributions of both discrete and continuous types of variables along with their properties; and the underlying theoretical foundation of the statistical inference including parameter estimation, hypothesis testing, hierarchical models and Bayesian inference.

PBHL 684 Statistical Inference II (3 credit hours)

This course is a continuation of Biostatistics Theory I focusing on concepts and methods of statistical inference. Topics include point/interval estimation, methods of moments, maximum likelihood estimation, Bayes estimates, hypothesis testing, Neyman-Pearson lemma, likelihood ratio tests and large sample approximation, and Bayesian analysis.

PBHL 623 Introduction to Statistical Computing (3 credit hours)

Provides the students with sufficient data management and computing skills enabling them to manage small to intermediate size public health research projects. Students will learn basic data management and analytic programming in the SAS statistical software.

PBHL 625 Longitudinal Data Analysis (3 credit hours)

Covers statistical methods and software commonly used to analyze longitudinal or repeated measurements data that are often encountered in public health and biomedical studies.

PBHL 628 Survival Data Analysis (3 credit hours)

This course covers the basic techniques of survival analysis. These approaches are useful in analyzing cohort data, which are common in health studies, when the main interest outcome is the onset of event and time to event is known.

PBHL 631 Applied Multivariate Analysis (3 credit hours)

This course introduces students to statistical methods for describing and analyzing multivariate data. Topics include basic matrix algebra; multivariate normal distribution; linear models with multivariate response; multivariate analysis of variance; profile analysis; dimension reduction techniques, including principal component analysis, factor analysis, canonical correlation, multidimensional scaling; discriminate/cluster analysis; and classification/regression trees.

PBHL 683 Advanced Clinical Trials & Experimental Design (3 credit hours)

Course prepares students to design & conduct clinical trials and other health related experiments. It will cover the development of a study protocol for a clinical trial, selection of the study population, sample size, and treatment assignment methods. Advanced experimental designs will also be covered.

PBHL 686 Advanced Statistical Computing (3 credit hours)

This course expands on computational methods used in biostatistics. It covers numerical techniques, programming, and simulations and will connect these to fundamental concepts in probability and statistics. The course will use the statistical software, R, to apply these concepts and enable the practical application of biostatistical models to real-world problems.

PBHL 696 Nonparametric and Semiparametric Models (3 credit hours)

The objective of this course is to introduce students to the fundamental concepts and applicable techniques of non-parametric and semi-parametric models, in particular, nonlinear functional relationships in regression analyses. Topics tentatively selected include: Density estimation, smoothing, non-parametric regression, additive models, semi-parametric mixed models, and generalized additive models.

PBHL 695 Statistical Consulting (3 credit hours)

The objective of this course is to introduce biostatistics graduate students to the fundamental aspects of statistical consulting and to provide training for being an effective statistical consultant. Topics tentatively selected include: Roles and responsibilities of biostatisticians in collaboration with scientists and other clients, oral and written communication skills, sample size and power calculations, study design, how to help researchers formulate their scientific questions in quantifiable terms, how to deal with missing data, how to write statistical analysis.

D. Required Epidemiology Courses

PBHL 530 Epidemiology (4 credit hours)

Introduces and applies the principles of epidemiology and study design needed to support population-based and community-health assessment and evaluation. Basic and more advanced methods are covered as appropriate, with applications to public health and community contexts, and integration with biostatistics.

PBHL 630 Intermediate Epidemiology (3 credit hours)

This course expands on basic methods used in epidemiologic thinking and research – with a focus on observational studies of disease risk factors. Topics covered include: basic principals of causal inference; observational study designs; bias; confounding; effect modification; stratified analysis; and the epidemiologic approach to multivariable modeling. An emphasis is also placed on critically reading the epidemiologic literature.

E. Potential Electives

Biostatistics students must take a minimum of 6 credits of electives. We recommend that one of these courses be taken in the Dornsife School of Public Health outside the Department of Epidemiology and Biostatistics.

Potential electives in the School, outside the Department, include:

PBHL 540 Prevention Principles and Practices (4 credit hours) - fall quarter
Focuses on how individuals and groups approach issues of health behavior, health communication, and health promotion. The goal of this course is to provide basic knowledge of social and behavioral science theories, models and research methods.

PBHL 615 Gender, Race, Ethnicity, & Class (3 credit hours) - winter quarter
This course will explore the history of concepts of gender, race, ethnicity and social class and probe the biology, sociology and constructed meanings of these deeply situated ideas.

PBHL 640 Environmental Health (4 credit hours) - winter quarter
Introduces concepts, theories, and programmatic application within the field of environmental health.

PBHL 641 Environmental Hazard Assessment (3 credit hours) - fall quarter
Pre-req 640 Environmental Health & 660 Occupational Health
This course provides students with a general understanding of the recognition and evaluation of chemical, physical and biological hazards. Particular emphasis is placed on airborne hazard evaluation theory and methods. Students become familiar with commonly used industrial hygiene equipment through participation in laboratory and field exercise.

PBHL 643 Occupational Toxicology (3 credit hours)- fall quarter
Pre-req 640 Environmental Health & 660 Occupational Health
This course provides students with a basic understanding of the recognition and evaluation of chemical, physical and biological hazards in the environment and workplace. The course addresses fundamentals of toxicology, legal implications of exposure and prevention strategies.

PBHL 649 Occupational & Environmental Cancers (3 credit hours) – spring quarter
Occupational and Environmental Cancers is an elective course for the Master of Public Health (MPH) program of study, concentration in Environmental and Occupational Health. It covers topics in courses of cancer, the prevention of cancer, and public policy regarding cancer.

PBHL 650 Policy Policy (4 credit hours) – winter quarter
Introduces the fundamentals of public-health law and the concepts and theories of health-policy development, adoption, and evaluation. Introduces the advocacy process and its importance to development of sound public health policy. Emphasizes systemic integration and the integration of the assessment, assurance, and policy development roles of public health.

PBHL 804 Research Methods for CHP (3 credit hours)- winter quarter
PreReq: PBHL 801 Theory & Practice of Community Health and Preventions I
Public health leaders must understand and use diverse research methods to make significant contributions to community health and prevention. This course integrates foundations of research methodology with use of appropriate statistical procedures to prepare students to apply rigorous scientific methods to understand and solve major public health problems.

Some students may wish to take an additional Epidemiology course in addition to the seven required credits. The following four courses are options:

PBHL 632 Applied Survey Research in Epidemiology (3 credit hours)- winter quarter

PreReq: PBHL 520 Intro Biostats & 530 Intro Epi (or equivalents)

This course addresses theoretical/practical aspects pertinent to the conduct of survey research in human populations. Topics include sampling, recruitment, and enrollment strategies; selection, definition, and measurement of study variables; instrument development/design; data collection techniques/requirements; data file development/management activities; and issues related to the influence of survey study design/execution on epidemiological effect measures.

PBHL 634 Epidemiology for Public Health Practice (3 credit hours)- spring quarter

PreReq: PBHL 640 Environmental Health

This course is designed to enable the student to understand epidemiology as a health discipline and how epidemiology provides information for infectious/non-infectious disease prevention and control. Topics cover public health surveillance, outcomes research, health services research, principles of cancer registration, and a variety of practice-related exercises.

PBHL 830 Advanced Epidemiology (4 credits hours) - winter quarter

PreReq: PBHL 620 Intermediate Biostats & 630 Intermediate Epi

This course covers more advanced methodologic issues in analytic epidemiology including: in-depth discussions of cohort, case-control, and case-cohort studies, missing data and methods of single/multiple imputation, theoretical basis of and analytic methods for using intermediate endpoints/surrogate markers, repeated measures analysis, the use of DAGS, and propensity scores to mitigate confounding.

PBHL 826 Causal Inferences (3 credit hours)- fall quarter

PreReq: 630 Intermediate Epi

This third level methods course has been designed to provide an in-depth theoretical foundation on epistemology and models of disease causation in epidemiology. To this end, we will read and vigorously discuss several scientific papers weekly on a variety of topics, all which support our understanding of the scientific basis for identifying the causes of diseases and adverse conditions.

In addition, there are a number of other potential electives available throughout the University.

The course titles and descriptions may be found on the University's Term Master Schedule.

IV. Academic Policies

A. Academic Advising

In order to ensure timely and correct completion of the curriculum, students should consult regularly with their faculty mentor and graduate advisor. Graduate academic advisors serve to provide career advice, are well-connected with public health resources locally, nationally, and internationally, and are excellent sounding boards for advice on educational and professional matters. Faculty advisors help students choose appropriate electives, find data analysis project, and give career guidance. Entering students are assigned a faculty advisor by the Program Manager and will be notified of their advisor prior to the start of classes.

B. Course Registration

Students in the MS in Biostatistics program will be informed of course registration number (CRNs) with which to register themselves according to the course schedule that follows the grid above. If there students encounter an issue during registration, they should contact the Program Manager.

If a student and advisor decide to deviate from this proposed plan, they should contact also contact the Program Manager for guidance.

C. Letter Grade Definitions, Point Equivalency, and Credit

General Grading Policies and Expectations

There is an expectation of a steady increase in each student's level of performance throughout the program, with a concomitant expectation of steadily increasing ability to integrate and apply the critical elements from all preceding classes. Students are graded on their performance in all aspects of the curriculum.

- a. Students are expected to comply with the School's Attendance Policy.
- b. It is expected that all assignments are submitted on time. Failure to do so may result in a lower grade.
- c. If a student receives a grade below C in any class, they must retake that course. The course remains on their transcript and is averaged in with all other courses.

A: The student has exceeded the required standards and expectations of academic performance. A letter grade of "A" carries four (4.0) grade points. Performance at the "A" letter grade level is indicative of exemplary achievement of course objectives. A designation of **A+** can be given at the instructor's discretion to acknowledge students of highest distinction – however the A+ grade still carries four (4.0) grade points.

A-: The student has met the required standards and expectations of academic performance slightly below the exceptional level. A letter grade of "A-" carries 3.7 grade points. Feedback to students – both written and verbal – should define the specific areas where improvement is needed.

B+: The student has met the required standards and expectations of academic performance slightly above the satisfactory level. A letter grade of "B+" carries 3.3 grade points. Feedback to students – both written and verbal – should define the specific areas where improvement is needed.

B: The student has met the required standards and expectations of academic performance at a satisfactory level. Performance at this level is indicative of good academic work with command of factual knowledge. The student's critical analysis and synthesis skills are appropriate but not exceptional. A letter grade of B carries three (3.0) grade points.

B-: The student has met the required standards and expectations of academic performance slightly below the satisfactory level. A letter grade of "B-" carries 2.7 grade points. Feedback to students – both written and verbal – should define the specific areas where improvement is needed.

C+: The student has met the required standards and expectations of academic performance slightly above the marginally acceptable level. A letter grade of "C+" carries 2.3 grade points. Feedback to students – both written and verbal – should define the specific areas where improvement is needed.

C: The student has met the required standards and expectations of academic performance at the marginally acceptable level. The academic work performed at this level is lacking in substance and/or form, and is of marginal quality. If a student receives a grade below C in any class, they must retake that course. The course remains on their transcript and is averaged in with all other

courses.

F: The student has failed to meet the required performance standards and expectations of academic performance. A letter grade of “F” carries zero (0) grade points. Feedback to students – both written and verbal – should define the specific areas where improvement is needed.

D. Course Evaluations

Course evaluations are sent to students toward the end of every semester/quarter through AEFIS and can be accessed through the “AEFIS” hyperlink in Drexel One. It is important that students complete these evaluations so that faculty and administrators in the Dornsife School of Public Health can have a better understanding of students’ educational experiences. These evaluations take about 10-15 minutes to complete and the process is completely anonymous. The course evaluations are a critical component to Dornsife’s program evaluation process and the overall quality improvement of the courses. Student feedback is essential, if we wish to understand the strengths and address the limitations of the content and instruction of our Public Health courses.

E. Dropping or Withdrawing from Courses

Dropping a course:

Courses may only be dropped during the “drop period” lasting from the beginning of the enrollment period **through the end of the first week of the quarter**. Dropping a course results in the course being removed from the student’s academic record without a “W” appearing on the transcript—specifically, neither the course nor the grade of “W” appears on the student’s transcript. Dropping required courses in a given academic year may however result in a student being unable to complete the program on time.

Withdrawing from a course:

Graduate students may withdraw from a course during the “withdrawal period” lasting from the beginning of the second week through the end of the seventh week of the quarter. Withdrawing from a course causes both the name of the course and the grade of “W” to appear on the student’s transcript. Before withdrawing from a course, students should consult with the instructor. All students must obtain their advisor’s written authorization before withdrawing from courses. Written authorization is obtained once the instructor has signed the “Add/Drop/Withdrawal” form available from Drexel Central’s web page: <http://drexel.edu/drexelcentral/about/forms> Withdrawing from required courses in a given academic year may however result in a student being unable to complete the program on time.

In accordance with Drexel University’s Tuition Refund/Credit Schedule Policy, the effective date of withdrawal (whether it is from an individual course or from Drexel University) will determine the amount of credit that you may be eligible to receive, thereby reducing the total amount of fees owed to Drexel University. Please refer to the Tuition Refund/Credit Schedule on Drexel Central website at <http://drexel.edu/drexelcentral/billing/refunds>

F. Incompletes

At the sole discretion of the instructor a grade of Incomplete (INC) may be assigned to a course where, 1) the instructor judges the student to have a legitimate reason to request the Incomplete grade, 2) the student has successfully completed more than 70% of course work at the time of request, and 3) the student has the ability to pass the course upon successful completion of the

course requirements. The student and instructor must complete a formal agreement stipulating all work to be completed and the deadline for such completion. A term grade of “F” will be assigned if contractually assigned work is not completed by the agreed upon deadline.

A Contract for Grade of Incomplete (INC) must be initiated by the student, signed by the instructor, and given to the Program Manager for processing. A student with two or more incomplete grades will not be allowed to register for additional courses without permission from the Associate Dean for Academic and Faculty Affairs.

G. Academic Calendar

Students can find current and upcoming University academic calendars at:
www.drexel.edu/provost/calendars

H. Academic Integrity

As detailed in the Drexel University Student Program Guide, plagiarism, cheating, forgery or other forms of academic misconduct are not tolerated at this institution and if allegations of misconduct related to academic integrity are upheld, a student may be expelled from the school. It is the responsibility of each student to ensure that his/her study and participation in the academic process is so conducted that there can be no question concerning his/her integrity. All assignments, unless clearly designated group projects, are expected to be the work of the individual student. Any use of ideas, data or wording of another person must include explicit acknowledgement of the source. Failure to give such credit is plagiarism. Any alteration/fabrication of data or inaccurate reporting of actual participation in an assignment are examples of academic misconduct. Any violations of the above will be dealt with utilizing the procedures outlined in the University Student Program Guide which is available online at http://www.drexel.edu/studentlife/community_standards/studentHandbook

Turnitin: Some courses may use Turnitin to submit written assignments. Faculty can also use Turnitin at their discretion to evaluate any student writing submitted.

I. Leave of Absence

On recommendation of the student's advisor and the Associate Dean for Academic and Faculty Affairs, a student may take a leave of absence for up to a maximum of two years consecutively or separately for master's candidates, for reasons of 1) military service, 2) family care, 3) serious illness or 4) another reason deemed adequate for interrupting graduate studies. Financial obligations to the University for past periods of matriculation are not waived by a leave of absence. Furthermore, a leave of absence does not extend the time limits allowed for completion of degree. Students on F-1 or J-1 visas are not eligible for a leave of absence.

J. Maintenance of Matriculation

All matriculated Dornsife School of Public Health students are required to be registered each quarter in order to continue to be degree candidates, unless they have requested and have received permission for a formal leave of absence. Informal leave of absence arrangements are not acceptable and will not be honored retroactively.

Matriculated students who fail to obtain a leave of absence or register for a quarter will be subject to termination of their matriculated status and may be administratively withdrawn and dropped from the rolls of the Dornsife School of Public Health. Reinstatement to matriculated status for

students who are administratively withdrawn will require petition to, and action by, the Admissions Committee. Such students will be treated as new applicants requesting admission with advanced standing. They will be required to file a new application and pay the application fee again.

K. Graduation Requirements

As part of the steps to graduate, all students must complete the Student Resource Center's online Application for Degree. Submitting the application notifies the University of your intent to graduate and initiates a check to make sure you have met all degree requirements. This form may be found by logging on to your DrexelOne account one.drexel.edu; selecting the students tab; under the Student Record Box select "More BannerWeb student records" then select "Apply for Your Degree." Students who are unable to graduate must submit a new Application for Degree form in the next term they anticipate graduating. Degrees earned during any term will be awarded at the end of that term, after all grades have been submitted. Commencement is held once a year, in June.

The following conditions must be met in order for a student to receive a degree:

- An Application for Degree must be filed with the Registrar's office no later than the deadlines specified in the Drexel Main Campus Academic Calendar.
- Specific course requirements must be completed for the program or major in which the student is enrolled.
- A grade point average of 3.0 or higher must be achieved for all coursework undertaken as part of this program at Drexel University.
- All grades for required courses must be submitted. No student will be approved for a degree while an unreported grade for a required course remains on his or her record.
- A master's student must receive final approval for graduation from the Office of Academic Affairs.
- Students must satisfy all financial obligations to the University.
- If for any reason a student does not meet all requirements for graduation two days before commencement, he or she cannot graduate until the term in which all requirements are met.
- If a student completes all requirements for graduation in any term other than the spring term, the degree will be awarded in the term in which the requirements are met. All financial obligations to the University must be met before the student receives his or her diploma.

L. Grievance Policies and Procedures

The Dornsife School of Public Health encourages open student-faculty communication and discussion to affect a satisfactory solution to problems relating to academic matters. Grade issues should be discussed first with the faculty member and then with the Department Chair.

M. Other Grievances

To submit a formal complaint, the student must address a letter to the Associate Dean for Academic and Faculty Affairs and the Dean, stating the specific complaint. The Dean will review

the complaint, gather supporting material and render a decision within 30 days from receipt of the letter.

N. Voluntary withdrawal from the program

Students who wish to withdraw from the program should do so in consultation with their advisor and the Program Manager. Students must submit a letter of intent to withdraw, and complete an exit interview with, the Associate Dean for Academic and Faculty Affairs.

O. Probation/Dismissal

A student may be placed on probation or dismissed from the MS program due to academic misconduct, a GPA falling below a 3.0 (note that a 3.0 or above GPA is required for graduation). Remediation is at the discretion of the Department Chair and faculty advisor.

The Dornsife School of Public Health and the University may, at any time, change any provisions, curricular requirements, bylaws, rules, regulations and policies and procedures as may be necessary in the interest of the University, the Dornsife School of Public Health and its students.