

Public Health Genetics 581
Introduction to Genetic Services and Bioinformatics in Public Health
Genetics
Winter Quarter, 2008

Course Coordinator

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Co-Instructor:

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Grading: Credit/No credit based on homework and class participation (1 unit)

No required Textbook

Objectives of the course:

- 1) Evaluate the relevant protein, DNA and genomic databases at the National Center for Biotechnology Information and other centers, including record analysis, data archiving and search strategies.
- 2) Utilize the basic DNA sequence analysis tools, including DNA translation, and multiple sequence alignment for the identification of single nucleotide polymorphisms and their effect of protein structure.
- 3) To compare and contrast the evolution of public health with clinical genetic services and discuss when and how they have integrated and evolved.
- 3) To recognize and discuss the potential impact of genetic diseases on families and communities.

PHG 581: Introduction to Genetic Services and Bioinformatics in Public Health Genetics
Alternate Mondays, Winter Quarter, 2008, 1:00 to 2:20 p.m.

Date	Lecture Topic	Instructor
<i>Week 1</i>		
January 14	General Introduction to Clinical Genetic Services, T498	Deb Doyle
<i>Week 3</i>		
January 28	Consumer Panel, T498	Deb Doyle
<i>Week 5</i>		
February 11	Introduction to Bioinformatics (Health Sciences Library computer lab – 3 rd Floor HSB)	Tim Rose
<i>Week 7</i>		
February 25 (Not Feb 18 due to President's Day Holiday)	Web-based Genetic Resources for Public Health Genetics (Health Sciences Library computer lab – 3 rd Floor HSB)	Tim Rose
<i>Week 9</i>		
March 10	Dialogue on ELSI issues from student readings, T498 <i>Reading:</i> One book from the suggested reading list below	Deb Doyle

Students MUST choose one book, fiction or non-fiction, that relays the story of the human experience associated with disease or disability. To ensure that students select a variety of books, all students must inform Deb Doyle by 1/28/08 of their selected title and no more than two students will be allowed to select the same title – first come first serve!

Suggested Reading List:

Family Pictures, by Sue Miller

A novel about a large family in which one of the sons has autism.

Flowers for Algernon, by Daniel Keyes

A diary of a mildly mentally retarded man who has experimental surgery to make him smart.

Faces of Huntington's, edited by Carmen Leal-Pock. The writers are people with HD, at-risk of HD, and care givers. Quite moving. (May only be available through the HD Association)

Nobody, Nowhere: The Extraordinary Autobiography of an Autistic, by Donna Williams.

Alex, the Story of a Child, by Frank DeFord

A book about a young child with CF from the point of view of the father, a reporter from *Sports Illustrated*.

Mendel's Dwarf, by Simon Mawer

A story about a man with achondroplasia who is also the great-great-grand-nephew of Gregor Mendel and an achondroplasia gene hunter. An interesting book which gives insight on what it's like to be a dwarf.

The Spirit Catches You and You Fall Down: A Hmong Child, Her American Doctors, and the Collision of Two Cultures, by Anne Fadiman. About a girl with a seizure disorder and her parents' cultural beliefs versus the beliefs held in westernized medicine.

Stones from the River, by Ursula Hegi

About a girl with achondroplasia during the WWII.

Intensive Care, by Mary-Lou Weisman

A truly wonderful book about a family with a child with Duchenne's Muscular Dystrophy.

Ordinary Daylight -- Portrait of an Artist Going Blind, by Andrew Potok. An extraordinary book about the experience of retinitis pigmentosa.

Mapping Fate, by Alice Wexler
about her family's role in identifying the Huntington's disease gene.

"Ten Years to Live" by Henry J. Schut.
The book reviews the experience of the Schut family in Minnesota who have SCA.

Journey, by Robert and Susan Massie (same people who wrote Nicholas and Alexandra)
about their son with hemophilia.

Before & After Zachariah: a True Story about a Family and a Different Kind of Courage,
by Fern Kupfer
About a family whose child struggles with a progressive and debilitating disorder.

Herman, by Lars Saabye Christensen. (English translation by Steven Michael Nordby)
It is about a boy who gets alopecia areata.

Another Season, by Gene Stallings (a well-known college
football coach) about his life with a son who has Down syndrome.

Jewel, by Bret Lott
About a woman whose 6th child is born with Down syndrome in 1943.

Kara Mia, by MaryAnn Anglim and Walter Allan, M.D.
about a teenage athlete with long Q-T syndrome who must recover from a near death
experience with her condition.

The Child Who Never Grew, by Pearl Buck.
It is about her daughter who has undiagnosed PKU and the struggles that she goes
through to try and find a diagnosis.

Middlesex, by Jeffrey Eugenides,
A fictional story that weaves in consanguinity leading to individuals affected by
hermaphroditism in current day and generations past.