# PUBLIC POLICY 147 & SOCIOLOGY 157
ENDING POVERTY WITH TECHNOLOGY

Winter, 2016-17
Tuesdays and Thursdays (3pm-4:20pm)
Professor: David B. Grusky

No prerequisites

There are growing worries that new technologies may eliminate work, increase inequality, and create a large dependent class subsisting on transfers. But can technology instead be turned against itself and used to end poverty? This class explores the sources of domestic poverty and then examines how new technologies might be developed to eliminate poverty. We first survey existing poverty-reducing products and then attempt to imagine new products that might end poverty by equalizing access to information, reducing transaction costs, or equalizing access to training. In a follow-up class in the spring quarter, students who choose to continue will select the most promising ideas, continue to develop them, and begin the design task within Stanford's new Poverty and Technology lab.
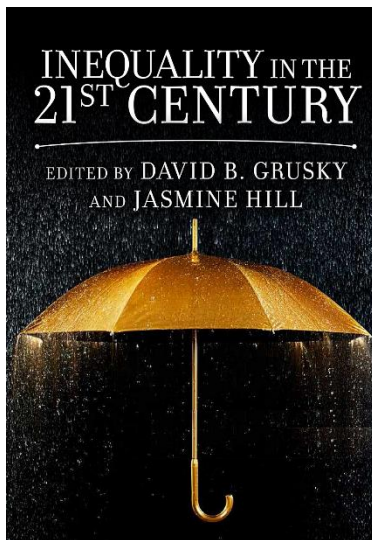
Readings: All readings will be posted on the course website or available in the forthcoming *Inequality in the 21st Century* (edited by David B. Grusky and Jasmine Hill).

Assignment: The course is built around a single formal assignment due on Friday, March 24. Each student must submit a 20-page research paper describing a new technology-based poverty-reduction product that addresses one or more of the problems covered in the course (i.e., meeting basic needs, access to information and social capital, access to physical capital, access to human capital, access to political capital). The paper should review existing research on how a particular access problem (e.g., access to human capital) generates poverty, how that access problem is currently addressed with existing poverty programs and products, and how the proposed product would go beyond those existing programs and products.

Course Schedule

I. A Dire Future?

We first examine some of the classic and new accounts of how emerging technologies may – or may not – reduce prime-age employment, increase inequality, and create new forms of poverty. We then turn to the question of whether that very same technology can be harnessed in the future to *reduce* poverty and inequality.

Class #1: Robots, Technology, and the End of Work?

II. An Overview of Poverty in the U.S.

We then provide a primer on U.S. poverty that covers such topics as poverty measurement, recent trends in poverty, the different types of poverty (e.g., deindustrializing poverty, immigrant poverty, suburban poverty), the experience of poverty, the causes of poverty, and the ways in which poverty is addressed with government programs, state programs, philanthropy, and innovative public-private ventures.

Class #2: What is Poverty and How is it Measured?
Class #3: Who Experiences Poverty, What is Poverty Like, and What Causes it?
Class #4: Current Approaches to Taking on Poverty

III. Meeting Basic Needs

We next cover the various ways in which technology currently creates poverty but might ultimately be turned against itself to reduce poverty. In each of these sections, we introduce students not just to the conceptual issues at stake, but we also provide examples of existing applications and introduce them to possible clients who seek technology-based solutions to poverty problems.

The simplest and most direct way in which technology can be deployed is by ensuring that basic needs are better met by (a) reducing the high transaction costs that currently impede access to poverty-reducing programs, (b) using new behavioral tools to nudge people toward optimizing decisions, (c) reducing the high transaction costs that have traditionally made "sharing" or "bartering" economies inefficient, and (d) developing technology-based reductions in the costs of meeting basic needs (e.g., 3-D food printing, technology-based reductions in housing costs). The purpose of this section is to explore how these basic-needs-meeting technologies could be developed and ramped up

Class #5: An Amazon for Social Services?
Class #6: Client Interview for a "Social Service App"

IV. Access to Information and Social Capital

The effects of poverty are magnified in the U.S. because extreme economic and racial segregation reduces the poor's access to information and social capital (as poor people interact mainly with others who are just as poor). Although one might wish for major institutional change that results in more integrated neighborhoods, a fallback until that change happens is to create "artificial neighborhoods" through social media. These artificial technology-generated neighborhoods can provide poor children and adults with (a) on-line mentoring, (b) information about school opportunities, and (c) information about job opportunities. The purpose of this section is to examine the future of these and related technologies.

Class #7: Creating Artificial Neighborhoods
Class #8: Client Interview for an Information Product

V. Access to Physical Capital

As important as access to information and social capital are, poverty is not wholly due to such access problems alone. It also arises because those who are poor don't have access to the

capital that then allows them to overcome income and consumption shocks, acquire skills, start businesses, or buy key "enabling" goods (e.g., cars, smart phones). This section discusses new and venerable ways (e.g., on-line microloans, crowdsourcing, virtual lending circles) of using technology to overcome these problems.

Class #9: Can Technology Substitute for Capital?
Class #10: Client Interview for a Liquidity-Solving Product

VI. Access to Human Capital

There are two roads to increasing access to human capital. It can be increased by providing money or loans to poor families who can then purchase it (see above), or it can be increased by reducing the cost of purchasing it or the efficiency in delivering it. The second "cost-reduction" road is again one that can, in part, be enabled by technology via on-line education, individualized learning, and micro-targeted education. This section discusses how the promise of equalizing access to human capital might be more fully realized.

Class #11: The Demise of Brick and Mortar?
Class #12: Client Interview for a Human Capital Application

VII. Access to Political Capital

Although poverty is partly about economic deprivation, it's also about isolation, a loss of voice, and a loss of control and power. Can technology take on these problems by empowering the poor? This section examines the technology that's available now and how it might be developed in the near future.

Class #13: The New Technology-Enhanced "Poor People's Revolution"?
Class #14: Client Interview for a Community-Organizing Product

VIII. Brainstorming About Applications

The balance of the quarter is devoted to brainstorming about the types of products we might imagine and build with them. We then conclude with a mini-conference in which students present their ideas to an audience of possible clients and foundation staff.

For students who wish to go on to build one or more of the anti-poverty products developed in this class, it will be possible to take the follow-up "build course," Sociology 158, in which students work within Stanford's new Poverty and Technology lab.

PUBLIC POLICY 148 & SOCIOLOGY 158
ENDING POVERTY WITH TECHNOLOGY: A PRACTICUM

Spring, 2016-17
Tuesdays and Thursdays (3pm-4:20pm)
Professor: David B. Grusky

Prerequisite: Public Policy 147 or Sociology 157

It is often argued that new technologies are eliminating work and will ultimately generate a two-class society of wealthy inventors and a very poor dependent class subsisting on transfers. Can technology instead be "turned against itself" and used to reduce inequality and eliminate poverty? This class is dedicated to designing and ultimately building new technology-based products that reduce poverty by equalizing access to information, reducing transaction costs, and equalizing access to training. The products coming out of this class will be further developed via summer internships and then built in a follow-up *Using Tech for Good* (Computer Science 50) class in the first quarter of 2018 (but class participants are not required to take that follow-up class).

The prerequisite to this course, Public Policy XXX or Sociology 157, introduced students to the causes and sources of poverty, conventional approaches to addressing it, and the role of technology in generating it as well as reducing it. The purpose of this course is to begin designing the products that were imagined in that course. We will divide into small groups, each working with a client, and each working to design a technology-based product that solves a poverty-relevant problem.

Course Assignment: The deliverable for each team (due on Wednesday, June 14) is a 25-page report describing the product, how it addresses a key need, and how it might be built.

I. How the Design Process Works

The first section, which will cover two weeks, lays out the theory of identifying problems and successfully taking them on.

II. Imagining the Product

After selecting the client (or clients), the balance of the quarter is devoted to defining the technology product, the problem it solves, and how it might be designed.

III. Presentations

In the last three weeks, each group is charged with presenting its recommendations, with ample time allowed for feedback. The final reports should be revised in light of this feedback.

FOLLOW-UP ACTIVITIES

SUMMER SESSION (2016-17): In the 2016-17 summer, one or more of the products will be developed further by several Haas Center interns (selected from class participants), with the objective being to prepare for the initial "build" in CS 50.

FOLLOWING FALL (2017-18): The product is built by CS 50 students (Using Tech for Good). It will be revised, modified, and tested over a more extended period over the balance of the academic year and beyond.