Topics for the End-of-Semester Project

The following is a list of projects that you can undertake. Projects are individual. Choose a project that you are interested in and that you feel you have a reasonable chance at finding background literature on.

Many topics are general and can be narrowed down depending on the interest of the student. Please see the professor (Dr. James Smith) or teaching assistant if you have questions about the specific topic you wish to study.

Note 1: If you choose the Hands-on Project, think carefully about the type of demonstration you will want to conduct, where you will obtain the relevant equipment and the costs involved. All projects will have the same weight in the final grading scheme.

Note 2: Projects involving posters: posters will need to be mounted on foam core as we will be using easels for display.

Note 3: Costs associated with execution of the project are the responsibility of the student (including printing costs).

Note 4: Do not email Dr. Smith with your selections until the scheduled time (see the course outline).

Please note: Projects which have been “struck through” are unavailable this year.
1. Topics for Position Paper + Poster

101. Chelation Therapy
102. Physician-Assisted Suicide
103. Patient Rights and Responsibilities
104. Standardization of Pharmacy Benefit Cards
105. Drug Testing for Nurses
106. Midwifery
107. Cord Blood Banking for Potential Future Transfusion
108. Confidentiality in Adolescent Health Care
109. Circumcision
110. Do Not Resuscitate Orders for Minors
111. Environmental Tobacco Smoke: A Hazard to Children
112. Fetal Therapy - Ethical Considerations
113. Gifts to Physicians from Industry
114. Horseback Riding and Head Injuries
115. Hypoallergenic Infant Formulas
116. Licensure of International Students in Nursing
117. The Use of Placebos for Pain Management in Patients with Cancer
118. Folic Acid and Pregnancy
119. Radioactive Materials and Patient Safety
120. Language Barriers in Physician-Patient Communication
121. Genetic Screening in the Workplace
122. Confidentiality of Electronic Medical Records
123. Disposal of Low-Level Medical Radioactive Waste
124. The Use of Opioids for the Treatment of Chronic Pain
125. Stem Cell Research: International Policies
126. The Use of Animals in Vision Research
127. Hospital-Acquired Infections
128. Sleep and Depression
129. Assistive Technologies
130. Home Births or Hospital Births?
131. The use of animals in biomedical research
132. Should men be designing tools for obstetrics and gynecology?
133. What place does religion have in modern medicine?
134. Should food be regulated the same way that pharmaceuticals are?
135. Should “alternative medicine” be banned?
2. Topics for Literature Survey + Presentation

201. Ethics of Palliative Care Research
202. Electronic Transfer of Prescription Information
203. Prescription Drug Coverage in Ontario
204. Drug Abuse Programs in Canada
205. Aircrew Fatigue
206. Home Care
207. Mental Health Services in Ontario for Children
208. Mental Health Service in Canada for the Elderly
209. Vitamin K and the Newborn Child
210. Echocardiography in Infants and Children
211. Female Genital Mutilation
212. Folic Acid and the Prevention of Neural Tube Defects
213. Health Care for Temporary Workers in Ontario
214. Health Supervision for Children with Down Syndrome
215. Use of Animals in Sleep Research
216. Vision Screening for Infants and Children
217. Educational Mobility of Medical Professionals and/or Engineers within Canada
218. Violence as a Leading Cause of Spinal Cord Injury
219. Regulations for Household Child Safety Locks (cabinets, etc.)
220. Effectiveness of Early Defibrillation
221. Use of Apolipoprotein E Testing for Alzheimer's Disease
222. Nutritional Supplements Used to Treat Down Syndrome
223. Nutritional Supplements Used to Treat ADD and/or ADHD
224. What is a Medical Physicist and what are the qualifications and licensure requirements in North America?
225. What are the role, responsibilities and licensure requirements of Radiation Safety Officers?
226. Interpretation of Urine Analysis for Cocaine Metabolites
227. The Role of a Medical Toxicologist in the Treatment of Alcohol Withdrawal Syndrome
228. Expansion of Midwifery Practice in Canada
229. Technologies related to HIV Screening
230. Multiple Chemical Sensitivities: Idiopathic Environmental Intolerance
231. Radon Exposure
232. Biological Effects of Radiation
233. Radium: Discontinuation of Curietherapy and Disposal of Radium
234. Use of Animals in Biomedical Research
235. What is Gene Therapy?
236. Stem Cell Research: History and Recent Advances.
237. Informed Consent for Genetic Testing in North American Jurisdictions
238. Plastic Surgery: Treatment of Skin Lesions
239. The Use of Antimicrobial Household Products
240. Patenting Human Gene Sequences
241. Health Effects of Lead Exposure
242. Eye Banks
243. Resuscitation and Care of Critically Ill Newborns
244. Telemedicine in Remote Canadian Locations
245. Autopsies and the Use of Tissue Removed at Autopsy
246. Prosthesis development in Europe, the Americas and Asia
247. Radiological Diagnosis – Case for Misdiagnosis
248. Sudden Cardiac Deaths: Engineering Solutions
249. Bionic People
250. Forensics of Electrical Accidents
251. Hand washing in Hospitals
252. Hospital designs to minimize spread of infectious disease
253. What was the role of religion in the history of Western medicine?
254. What was the role of religion in the history of non-Western medicine?
3. Topics for Hands-on Project + Report

All of the following projects require the use of a Lilypad Arduino system. No specific training regarding Arduinos will be given in class or in the labs. However, you are encouraged to come to the scheduled office hours to consult if you run into issues.

The boards and other equipment are available from online vendors, as well as local vendors such as Creatron, near the corner of Spadina and College. Work is individual but more than one person can work on a particular project.

Curious? See the following references on the Arduino system:


301. Lilypad Arduino-based wireless (XBe) communication system (hard)
302. Lilypad Arduino-based sleep monitoring system (moderate)
303. Lilypad Arduino-based physical impact alert system (hard)
304. Lilypad Arduino-based wristwatch system with pill schedule reminder (moderate)
305. Lilypad Arduino-based infant sleep blanket system (moderate)
306. Lilypad Arduino-based lighting system for reading at night (easy)
307. Lilypad Arduino-based bicycle and wheelchair light flasher (easy)
308. Lilypad Arduino-based temperature alert system (easy)
309. Lilypad Arduino-based pedometer (hard)