ECE 101: Foundations in ECE

**Concepts:**
- ECE skills are applicable to a wide range of potential careers
- Successful engineers exhibit a multitude of technical and non-technical skills
- Engineering project development
  - Requires multidisciplinary teams
  - Subsystem interface
  - Consider technical as well as social constraints
- Effective communication of technical material through a variety of mediums

**Applications:**
- Develop and propose a socially meaningful project to an emulated community forum
- Design an interactive, ECE project

**Tools:**
- No special tools required - research conducted using online resources and provided material
- Microprocessor (Arduino Uno recommended) and assorted electronic components

**Course Structure:**
- Engineering Roles
  - Technical subsystem research
  - Collaborative project development
  - Community forum presentations
- Engineering Concentrations
  - Hands-on project development
  - Integration of hardware and software
  - Interactive project demonstrations

**Professional Skills**
- Technical presentation skills for varied audiences
- Justifying trade-offs between technical, cultural, economic, and environmental constraints
- Persuasive writing
- Project management

**ECE Career Knowledge**
- Understand role of ECE concentrations in varied applications
- Exposure to a variety of ECE careers

**ECE Skills**
- Foundational programming knowledge
- Advancement of circuity skills
- Subsystem development

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**Prior Knowledge**
- General curiosity about potential future in ECE

**Pre-requisites**
- None

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