

## **Preface and Chapter 1 Podcasts**

### **Preface**

<http://www.danfleisch.com/maxwell/audio/Chapter1/Preface1.mp3>

### **1. The integral form of Gauss's law**

[http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1\\_Intro.mp3](http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1_Intro.mp3)

### **2. The electric field**

[http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1\\_Efield.mp3](http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1_Efield.mp3)

### **3. The dot product**

[http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1\\_Dotprod.mp3](http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1_Dotprod.mp3)

### **4. The unit normal vector**

[http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1\\_Unitnorm.mp3](http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1_Unitnorm.mp3)

### **5. The component of $\mathbf{E}$ normal to a surface**

[http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1\\_Edotn.mp3](http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1_Edotn.mp3)

### **6. The surface integral**

[http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1\\_Surfinteg.mp3](http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1_Surfinteg.mp3)

### **7. The flux of a vector field**

[http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1\\_Adotnda.mp3](http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1_Adotnda.mp3)

### **8. The electric flux through a closed surface**

[http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1\\_IntEdotnda.mp3](http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1_IntEdotnda.mp3)

### **9. The enclosed charge**

[http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1\\_genc.mp3](http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1_genc.mp3)

### **10. The permittivity of free space - epsilon naught**

[http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1\\_epsilon\\_naught.mp3](http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1_epsilon_naught.mp3)

### **11. The differential form of Gauss's law**

[http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1\\_Differential\\_Intro.mp3](http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1_Differential_Intro.mp3)

### **12. Nabla - the del operator**

[http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1\\_Nabla.mp3](http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1_Nabla.mp3)

### **13. Del dot - the divergence**

[http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1\\_Deldot.mp3](http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1_Deldot.mp3)

### **14. The divergence of the electric field**

[http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1\\_DeldotE.mp3](http://www.danfleisch.com/maxwell/audio/Chapter1/Ch1_DeldotE.mp3)

## Chapter 2 Podcasts

### 1. The integral form of Gauss's law

[http://www.danfleisch.com/maxwell/audio/Chapter2/Ch2\\_Intro.mp3](http://www.danfleisch.com/maxwell/audio/Chapter2/Ch2_Intro.mp3)

### 2. The magnetic field

[http://www.danfleisch.com/maxwell/audio/Chapter2/Ch2\\_Bfield.mp3](http://www.danfleisch.com/maxwell/audio/Chapter2/Ch2_Bfield.mp3)

### 3. The magnetic flux

[http://www.danfleisch.com/maxwell/audio/Chapter2/Ch2\\_Magflux.mp3](http://www.danfleisch.com/maxwell/audio/Chapter2/Ch2_Magflux.mp3)

### 4. The differential form of Gauss's law

[http://www.danfleisch.com/maxwell/audio/Chapter2/Ch2\\_Differential\\_Intro.mp3](http://www.danfleisch.com/maxwell/audio/Chapter2/Ch2_Differential_Intro.mp3)

### 5. The divergence of the magnetic field

[http://www.danfleisch.com/maxwell/audio/Chapter2/Ch2\\_DeldivB.mp3](http://www.danfleisch.com/maxwell/audio/Chapter2/Ch2_DeldivB.mp3)

## Chapter 3 Podcasts

### 1. The integral form of Faraday's law

[http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3\\_Intro.mp3](http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3_Intro.mp3)

### 2. The induced electric field

[http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3\\_InducedEfield.mp3](http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3_InducedEfield.mp3)

### 3. The line integral

[http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3\\_Lineintegral.mp3](http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3_Lineintegral.mp3)

### 4. The path integral of a vector field

[http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3\\_Pathintvecfield.mp3](http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3_Pathintvecfield.mp3)

### 5. The electric field circulation

[http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3\\_Efieldcirc.mp3](http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3_Efieldcirc.mp3)

### 6. The rate of change of flux

[http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3\\_RateChangeFlux.mp3](http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3_RateChangeFlux.mp3)

### 7. Lenz's Law

[http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3\\_LenzLaw.mp3](http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3_LenzLaw.mp3)

### 8. The differential form of Faraday's law

[http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3\\_DiffIntro.mp3](http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3_DiffIntro.mp3)

### 9. Del cross - the curl

[http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3\\_DelCross.mp3](http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3_DelCross.mp3)

### 10. The curl of the electric field

[http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3\\_CurlE.mp3](http://www.danfleisch.com/maxwell/audio/Chapter3/Ch3_CurlE.mp3)

## Chapter 4 Podcasts

**1. The integral form of the Ampere-Maxwell law**

[http://www.danfleich.com/maxwell/audio/Chapter4/Ch4\\_Intro.mp3](http://www.danfleich.com/maxwell/audio/Chapter4/Ch4_Intro.mp3)

**2. The magnetic field circulation**

[http://www.danfleich.com/maxwell/audio/Chapter4/Ch4\\_MagFieldCirc.mp3](http://www.danfleich.com/maxwell/audio/Chapter4/Ch4_MagFieldCirc.mp3)

**3. The permeability of free space**

[http://www.danfleich.com/maxwell/audio/Chapter4/Ch4\\_Permeability.mp3](http://www.danfleich.com/maxwell/audio/Chapter4/Ch4_Permeability.mp3)

**4. The enclosed electric current**

[http://www.danfleich.com/maxwell/audio/Chapter4/Ch4\\_Enclosed\\_Current.mp3](http://www.danfleich.com/maxwell/audio/Chapter4/Ch4_Enclosed_Current.mp3)

**5. The rate of change of flux**

[http://www.danfleich.com/maxwell/audio/Chapter4/Ch4\\_RateChangeFlux.mp3](http://www.danfleich.com/maxwell/audio/Chapter4/Ch4_RateChangeFlux.mp3)

**6. The differential form of the Ampere-Maxwell law**

[http://www.danfleich.com/maxwell/audio/Chapter4/Ch4\\_Intro\\_diff\\_AmpereMaxwell.mp3](http://www.danfleich.com/maxwell/audio/Chapter4/Ch4_Intro_diff_AmpereMaxwell.mp3)

**7. The curl of the magnetic field**

[http://www.danfleich.com/maxwell/audio/Chapter4/Ch4\\_CurlMagField.mp3](http://www.danfleich.com/maxwell/audio/Chapter4/Ch4_CurlMagField.mp3)

**8. The electric current density**

[http://www.danfleich.com/maxwell/audio/Chapter4/Ch4\\_CurrentDensity.mp3](http://www.danfleich.com/maxwell/audio/Chapter4/Ch4_CurrentDensity.mp3)

**9. The displacement current density**

[http://www.danfleich.com/maxwell/audio/Chapter4/Ch4\\_Displacement\\_current\\_density1.mp3](http://www.danfleich.com/maxwell/audio/Chapter4/Ch4_Displacement_current_density1.mp3)