**THIS IS A WORKSHEET ONLY AND REPRESENTS THE REQUIREMENTS IN EFFECT AT THE TIME CREATED.**
**MAJOR REQUIREMENTS AND OFFERINGS MAY CHANGE AT THE DISCRETION OF THE DEPARTMENT**

Advisor: _____ Name: _____

Catalog: 2009 – 2010

Minimum graduation credits: 124 Transfer credits: _____

Minimum gpa in major:

# PHYSICS
## Professional Concentration

### CORE REQUIREMENTS
### MINIMUM OF 20 CREDITS AT GORDON

**COMMON COURSES (36 credits)**

| | | | |
|---|---|---|---|
| COR 107 | The Great Conversation | 4 | |
| BCM 101 | Old Testament | 4 | |
| BCM 103 | New Testament | 4 | |
| PHI 118 | The Examined Life | 4 | |
| HIS 121 | Historical Perspectives | 4 | |
| NSM 202 | Scientific Enterprise | 4 | |
| BCM 280 | Christian Theology | 4 | |

**FOREIGN LANGUAGE**

| | | |
|---|---|---|
| ___ ___ | (First semester language) | 4 |
| ___ ___ | (Second semester language) | 4 |

**PHYSICAL EDUCATION**

| | | |
|---|---|---|
| PED ___ | LaVida or Discovery | 0 |
| | (Concepts of Wellness by petition only) | |
| PED ___ | (PE Activity) | 0 |
| PED ___ | (PE Activity) | 0 |

**THEMATIC COURSES (20 credits)**

*At least one must be fulfilled with an approved literature course; minimum 3 courses at Gordon.*

**Natural World** *Can be fulfilled with MAT141*

___ ___ _____ 4

**Human Person**

___ ___ _____ 4

**Aesthetic Sensibilities**

___ ___ _____ 4

**Civic Responsibility**

___ ___ _____ 4

**Gobal Understanding***

___ ___ _____ 0-4

*Global Understanding may be fulfilled in a variety of ways through study abroad, approved missions trips, or appropriate courses.

### COURSES IN MAJOR

**REQUIRED COURSES**

| | | |
|---|---|---|
| PHY 121 | Intro Physics I | 4 |
| PHY 122 | Intro Physics II | 4 |
| PHY 130 | First Year Phys Sem | 1 |
| PHY 214 | Math Meth Phys I | 4 |
| PHY 236 | Modern Physics | 4 |
| PHY 314 | Mechanics | 4 |
| PHY 339 | Elect & Magn I | 4 |
| PHY 391 | Junior Sem I | 0 |
| PHY 392 | Junior Sem II | 0 |
| PHY 471 | Research I | 1-4 |
| PHY 472 | Research II | 1-4 |
| PHY 491 | Senior Sem I | 1 |
| PHY 492 | Senior Sem II | 1 |
| MAT 141 | Calculus I | 4 |
| MAT 142 | Calculus II | 4 |
| MAT 223 | Calculus III | 2 |
| MAT 225 | Differential Equations | 4 |

**One of the Following Sequences:**

Chemistry:

| | | |
|---|---|---|
| CHE 111 | Principles of Chemistry I | 4 |
| CHE 112 | Principles of Chemistry II | 4 |

Computer Science:

| | | |
|---|---|---|
| CPS 121 | Introduction to Programming | 4 |
| CPS 122 | Object-Oriented Software Development | 4 |

**Concentration Courses**

| | | |
|---|---|---|
| PHY 225 | Electric/Electronic Circuits | 4 |
| PHY 355 | Quantum Mechanics | 4 |
| PHY 372 | Thermal Physics | 4 |

**Recommended Courses**

| | | |
|---|---|---|
| PHY 313 | Mathematical Methods in Physics II | 4 |
| PHY 340 | Electricity and Magnetism II | 4 |
| PHY 341 | Optics | 4 |
| PHY 371 | Selected Topics in Physics | 2 |

**ELECTIVES – If required to reach 124 minimimum**

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**THIS IS A WORKSHEET ONLY AND REPRESENTS THE REQUIREMENTS IN EFFECT AT THE TIME CREATED.**
**MAJOR REQUIREMENTS AND OFFERINGS MAY CHANGE AT THE DISCRETION OF THE DEPARTMENT**

Advisor: _____ Name: _____

Catalog: 2009 – 2010

Minimum graduation credits: 124 Transfer credits: _____

Minimum gpa in major:

# PHYSICS
## Computational Physics Concentration

### CORE REQUIREMENTS
### MINIMUM OF 20 CREDITS AT GORDON

**COMMON COURSES (36 credits)**

| | | | |
|---|---|---|---|
| COR 107 | The Great Conversation | 4 | |
| BCM 101 | Old Testament | 4 | |
| BCM 103 | New Testament | 4 | |
| PHI 118 | The Examined Life | 4 | |
| HIS 121 | Historical Perspectives | 4 | |
| NSM 202 | Scientific Enterprise | 4 | |
| BCM 280 | Christian Theology | 4 | |

**FOREIGN LANGUAGE**

| | | | |
|---|---|---|---|
| ___ ___ | (First semester language) | 4 | |
| ___ ___ | (Second semester language) | 4 | |

**PHYSICAL EDUCATION**

| | | | |
|---|---|---|---|
| PED ___ | LaVida or Discovery | 0 | |
| | (Concepts of Wellness by petition only) | | |
| PED ___ | (PE Activity) | 0 | |
| PED ___ | (PE Activity) | 0 | |

**THEMATIC COURSES (20 credits)**

*At least one must be fulfilled with an approved literature course; minimum 3 courses at Gordon.*

**Natural World** *Can be fulfilled with MAT141*

___ ___ _____ 4 _____

**Human Person**

___ ___ _____ 4 _____

**Aesthetic Sensibilities**

___ ___ _____ 4 _____

**Civic Responsibility**

___ ___ _____ 4 _____

**Gobal Understanding***

___ ___ _____ 0-4 _____

*Global Understanding may be fulfilled in a variety of ways through study abroad, approved missions trips, or appropriate courses.

**ELECTIVES – If required to reach 124 minimimum**

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### COURSES IN MAJOR

**REQUIRED COURSES**

| | | | |
|---|---|---|---|
| PHY 121 | Intro Physics I | 4 | |
| PHY 122 | Intro Physics II | 4 | |
| PHY 130 | First Year Phys Sem | 1 | |
| PHY 214 | Math Meth Phys I | 4 | |
| PHY 236 | Modern Physics | 4 | |
| PHY 314 | Mechanics | 4 | |
| PHY 339 | Elect & Magn I | 4 | |
| PHY 391 | Junior Sem I | 0 | |
| PHY 392 | Junior Sem II | 0 | |
| PHY 471 | Research I | 1-4 | |
| PHY 472 | Research II | 1-4 | |
| PHY 491 | Senior Sem I | 1 | |
| PHY 492 | Senior Sem II | 1 | |
| MAT 141 | Calculus I | 4 | |
| MAT 142 | Calculus II | 4 | |
| MAT 223 | Calculus III | 2 | |
| MAT 225 | Differential Equations | 4 | |

**One of the Following Sequences:**

Chemistry:

| | | | |
|---|---|---|---|
| CHE 111 | Principles of Chemistry I | 4 | |
| CHE 112 | Principles of Chemistry II | 4 | |

Computer Science:

| | | | |
|---|---|---|---|
| CPS 121 | Introduction to Programming | 4 | |
| CPS 122 | Object-Oriented Software Development | 4 | |

**Concentration Courses**

**2 courses numbered above PHY224:**

| | | | |
|---|---|---|---|
| PHY ___ | (Physics elective) | 4 | |
| PHY ___ | (Physics elective) | 4 | |

**Math/Comp Sci Courses (16 credits)**

| | | | |
|---|---|---|---|
| PHY 313 | Mathematical Methods in Physics II | 4 | |
| CPS 221 | Software Systems | 4 | |
| CPS 222 | Computational Structures and Algorithms | 4 | |
| CPS 311 | Computer Organization | 4 | |
| CPS 312 | Computer Systems II | 4 | |
| CPS 323 | Programming Languagues | 4 | |
| MAT 229 | Discrete Mathematics for Comp Sci | 2 | |
| MAT 231 | Transition to Higher Mathematics | 2 | |
| MAT 232 | Linear Algebra | 4 | |
| MAT 318 | Probability | 4 | |
| MAT 319 | Statistics | 4 | |
| MAT 335 | Algebraic Structures | 4 | |
| MAT 342 | Numerical Analysis | 4 | |
| MAT 353 | Real Analysis | 4 | |

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**THIS IS A WORKSHEET ONLY AND REPRESENTS THE REQUIREMENTS IN EFFECT AT THE TIME CREATED. MAJOR REQUIREMENTS AND OFFERINGS MAY CHANGE AT THE DISCRETION OF THE DEPARTMENT**

Name: _____ Advisor: _____

Catalog: 2009 - 2010

Minimum graduation credits: 124 Transfer credits: _____

Minimum gpa in major:

# PHYSICS
## Engineering Physics Concentration

### CORE REQUIREMENTS
### MINIMUM OF 20 CREDITS AT GORDON

**COMMON COURSES (36 credits)**

| | | | |
|---|---|---|---|
| COR 107 | The Great Conversation | 4 | _____ |
| BCM 101 | Old Testament | 4 | _____ |
| BCM 103 | New Testament | 4 | _____ |
| PHI 118 | The Examined Life | 4 | _____ |
| HIS 121 | Historical Perspectives | 4 | _____ |
| NSM 202 | Scientific Enterprise – *waived by major* | | _____ |
| BCM 308 | Christian Theology | 4 | _____ |

**FOREIGN LANGUAGE**

| | | |
|---|---|---|
| ___ ___ | (Begin Lang I) | 4 _____ |
| ___ ___ | (Begin Lang II) | 4 _____ |

**PHYSICAL EDUCATION**

| | | |
|---|---|---|
| PED ___ | LaVida or Discovery | 0 _____ |
| | (Concepts of Wellness by petition only) | |
| PED ___ | (PE Activity) | 0 _____ |
| PED ___ | (PE Activity) | 0 _____ |

**THEMATIC COURSES (20 credits)**

*At least one must be fulfilled with an approved literature course; minimum 3 courses at Gordon.*

**Natural World** *Can be fulfilled with MAT141*

___ ___ _____ 4 _____

**Human Person**

___ ___ _____ 4 _____

**Aesthetic Sensibilities**

___ ___ _____ 4 _____

**Civic Responsibility**

___ ___ _____ 4 _____

**Global Understanding***

___ ___ _____ 0-4 _____

*Global Understanding may be fulfilled in a variety of ways through study abroad, approved missions trips, or appropriate courses.

### COURSES IN MAJOR

**REQUIRED COURSES**

| | | | |
|---|---|---|---|
| PHY 121 | Intro Physics I | 4 | _____ |
| PHY 122 | Intro Physics II | 4 | _____ |
| PHY 130 | First Year Phys Sem | 1 | _____ |
| PHY 214 | Math Meth Phys I | 4 | _____ |
| PHY 236 | Modern Physics | 4 | _____ |
| PHY 314 | Mechanics | 4 | _____ |
| PHY 339 | Elect & Magn I | 4 | _____ |
| PHY 391 | Junior Sem I | 0 | _____ |
| PHY 392 | Junior Sem II | 0 | _____ |
| PHY 471 | Research I | 1-4 | _____ |
| PHY 472 | Research II | 1-4 | _____ |
| PHY 491 | Senior Sem I | 1 | _____ |
| PHY 492 | Senior Sem II | 1 | _____ |
| MAT 141 | Calculus I | 4 | _____ |
| MAT 142 | Calculus II | 4 | _____ |
| MAT 223 | Calculus III | 2 | _____ |
| MAT 225 | Differential Equations | 4 | _____ |

**One of the Following Sequences:**

Chemistry:

| | | | |
|---|---|---|---|
| CHE 111 | Principles of Chemistry I | 4 | _____ |
| CHE 112 | Principles of Chemistry II | 4 | _____ |

Computer Science:

| | | | |
|---|---|---|---|
| CPS 121 | Introduction to Programming | 4 | _____ |
| CPS 122 | Object-Oriented Software Development | 4 | _____ |

**Concentration Courses**

| | | | |
|---|---|---|---|
| PHY 125 | Intro to Engineering/Appl Sci | 2 | _____ |
| PHY 216 | Statics | 4 | _____ |
| PHY 225 | Electronics | 4 | _____ |
| PHY 328 | Strength of Materials **OR** | 4 | _____ |
| PHY 371 | Selected Topics | 1-4 | _____ |

**Strongly Recommended**

| | | | |
|---|---|---|---|
| PHY 355 | Quantum Mechanics | 4 | _____ |
| PHY 372 | Thermal Physics | 4 | _____ |

**ELECTIVES – If required to reach 124 minimum**

**THIS IS A WORKSHEET ONLY AND REPRESENTS THE REQUIREMENTS IN EFFECT AT THE TIME CREATED.**
**MAJOR REQUIREMENTS AND OFFERINGS MAY CHANGE AT THE DISCRETION OF THE DEPARTMENT**

Advisor: _____

Name: _____

Catalog: 2009 – 2010

Minimum graduation credits: 124

Transfer credits: _____

Minimum gpa in major:

# PHYSICS
## 3-2 Engineering Program

### CORE REQUIREMENTS
### MINIMUM OF 20 CREDITS AT GORDON

**COMMON COURSES (36 credits)**

| | | | |
|---|---|---|---|
| COR 107 | The Great Conversation | 4 | |
| BCM 101 | Old Testament | 4 | |
| BCM 103 | New Testament | 4 | |
| PHI 118 | The Examined Life | 4 | |
| HIS 121 | Historical Perspectives | 4 | |
| NSM 202 | Scientific Enterprise | 4 | |
| BCM 280 | Christian Theology | 4 | |

**FOREIGN LANGUAGE**

| | | |
|---|---|---|
| ___ ___ | (First semester language) | 4 |
| ___ ___ | (Second semester language) | 4 |

**PHYSICAL EDUCATION**

| | | |
|---|---|---|
| PED ___ | LaVida or Discovery | 0 |
| | (Concepts of Wellness by petition only) | |
| PED ___ | (PE Activity) | 0 |
| PED ___ | (PE Activity) | 0 |

**THEMATIC COURSES (20 credits)**

*At least one must be fulfilled with an approved literature course; minimum 3 courses at Gordon.*

**Natural World** *Can be fulfilled with MAT141*

___ ___ _____ 4

**Human Person**

___ ___ _____ 4

**Aesthetic Sensibilities**

___ ___ _____ 4

**Civic Responsibility**

___ ___ _____ 4

**Gobal Understanding***

___ ___ _____ 0-4

*Global Understanding may be fulfilled in a variety of ways through study abroad, approved missions trips, or appropriate courses.

### COURSES IN MAJOR

**REQUIRED COURSES**

| | | |
|---|---|---|
| PHY 121 | Intro Physics I | 4 |
| PHY 122 | Intro Physics II | 4 |
| PHY 125 | Intro to Engineering and Applied Sciences | 2 |
| PHY 214 | Mathematical Methods in Physics I | 4 |
| PHY 216 | Statics | 4 |
| PHY 225 | Electrical and Electronic Circuits | 4 |
| PHY 236 | Modern Physics | 4 |
| PHY 314 | Mechanics | 4 |
| PHY 328 | Strength of Materials | 4 |
| CHE 111 | Principles of Chemistry I | 4 |
| CPS 121 | Introduction to Programming | 4 |
| MAT 141 | Calculus I | 4 |
| MAT 142 | Calculus II | 4 |
| MAT 223 | Calculus III | 2 |
| MAT 225 | Differential Equations | 4 |

**ELECTIVES**

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