

# Physics Majors

## Eight Semester Student Schedule

*Undergraduate majors only. This is to be a sample student program to include UCC, program, and elective courses. The hours for each semester should be sub-totaled with the total for the entire course of study listed in the bottom right hand corner. Specific UCC and elective courses should not be listed. They should be identified generally [i.e., UCC (3 or 2 hrs.) elec. (3 - 1 hrs.)]*

<i>FALL</i>		<i>SPRING</i>	
<b><u>FRESHMAN</u></b>			
Course	Hrs.	Course	Hrs.
PHYCS 115	1	PHYCS 122	5
PHYCS 120 (UCC 3 hrs)	5	MATHS 166	4
MATHS 165 (UCC 3 hrs)	4	UCC	3
CS 120	3	UCC	3
UCC	3		
Sub Total	<u>16</u>	Sub Total	<u>15</u>
<b><u>SOPHOMORE</u></b>			
Course	Hrs.	Course	Hrs.
PHYCS 260	4	PHYCS 262	1
PHYCS 483	1	PHYCS 330	3
MATHS 267	4	PHYCS 483	1
UCC	3	Elective	3
UCC	3	Elective	3
		UCC	3
		UCC	2
Sub Total	<u>15</u>	Sub Total	<u>16</u>
<b><u>JUNIOR</u></b>			
Course	Hrs.	Course	Hrs.
PHYCS Elective	3	PHYCS 340	3
PHYCS Elective	3	PHYCS 434	3
Elective	3	Elective	3
Elective	3	Elective	2
UCC	3	UCC	3
		UCC	3
Sub Total	<u>15</u>	Sub Total	<u>17</u>
<b><u>SENIOR</u></b>			
Course	Hrs.	Course	Hrs.
PHYCS 450	3	PHYCS 452	3
PHYCS 464	3	PHYCS 465	3
PHYCS 485	1	PHYCS 369/479/482 or HONRS 499	3
Elective	3	Elective	3
Elective	3	Elective	1
UCC	3	UCC	3
Sub Total	<u>16</u>	Sub Total	<u>16</u>
		Grand Total	<u>126</u>

## Physics Major Pre-requisite List

1. Please provide the following information for all required courses in the proposed program (include new course/course revision forms where appropriate):

Pref/number/hrs	Short Title	Prereqs: (where appropriate, use N/A or none)
PHYCS 115	Career Iss	none
PHYCS 120	Gen Physcs 1	MATHS 161 or MATHS 165 (CoR)
PHYCS 122	Gen Physcs 2	PHYCS 120; MATHS 162 or MATHS 166 (CoR)
PHYCS 260	Intro Modern	PHYCS 122
PHYCS 330	Mechanics	PHYCS 120; MATHS 162
PHYCS 340	Physcl Optic	PHYCS 122
PHYCS 434	Thermodynamc	PHYCS 330; MATHS 267
PHYCS 450	Elect Magnet	PHYCS 122; MATHS 267
PHYCS 464	Intro Q M	PHYCS 260; MATHS 267; Perm.
PHYCS 482	Indpen Study	Perm.
or		
PHYCS 369	Prof Exper	Perm.
or		
PHYCS 479	Prac Exper	Perm.
or		
HONRS 499	Honrs Proje	Perm.
PHYCS 483	Sem Phys	none
PHYCS 485	Meas Learn	PHYCS 260; PHYCS 330
CS 120	Comp Sci	MATHS 161 (CoR)
MATHS 165	Calculus 1	background
MATHS 166	Calculus 2	MATHS 165
MATHS 267	Calculus 3	MATHS 166

2. Please provide the following information for all directed elective courses in the proposed program (include new course/course revision forms where appropriate)

Pref/number/hrs	Short Title	Prereqs: (where appropriate, use N/A or none)
PHYCS 452	Electrom Th	PHYCS 450
PHYCS 465	Quant Mech	PHYCS 464
ASTRO 330	Astrophyscs 1	PHYCS 122
ASTRO 332	Astrophyscs 2	ASTRO 330
PHYCS 354	Electronic 1	PHYCS 122
PHYCS 356	Electronic 2	PHYCS 354

## Pre-engineering Majors

### Eight Semester Student Schedule

*Undergraduate majors only. This is to be a sample student program to include UCC, program, and elective courses. The hours for each semester should be sub-totaled with the total for the entire course of study listed in the bottom right hand corner. Specific UCC and elective courses should not be listed. They should be identified generally [i.e., UCC (3 or 2 hrs.) elec. (3 - 1 hrs)]*

<i>FALL</i>		<i>SPRING</i>	
<b><u>FRESHMAN</u></b>			
Course	Hrs.	Course	Hrs.
CHEM 111 (UCC 3 hrs)	4	CHEM 112	4
MATHS 165 (UCC 3 hrs)	4	MATHS 166	4
PHYCS 115	1	PHYCS 122	5
PHYCS 120 (UCC 3 hrs)	5	UCC	3
UCC	3		
Sub Total	<u>17</u>	Sub Total	<u>16</u>
<b><u>SOPHOMORE</u></b>			
Course	Hrs.	Course	Hrs.
CS 120	3	ITMFG 105	3
PHYCS 260	4	MATHS 217	4
MATHS 267	4	PHYCS 262	1
UCC	3	PHYCS 330	3
UCC	3	Physics Elective	3
		UCC	2
Sub Total	<u>17</u>	Sub Total	<u>16</u>
<b><u>JUNIOR</u></b>			
Course	Hrs.	Course	Hrs.
PHYCS 354	3	PHYCS 356	4
PHYCS 483	1	UCC	3
PHYCS 485	1	UCC	3
Physics Elective	3	UCC	3
Physics Elective	3	UCC	3
UCC	3		
UCC	3		
		Sub Total	<u>16</u>
Sub Total	<u>17</u>	Grand Total	<u>99</u>
<i>Three year program. No senior year.</i>		<i>Three year program. No senior year.</i>	

## Pre-engineering Major Pre-requisite List

1. Please provide the following information for all required courses in the proposed program (include new course/course revision forms where appropriate):

Pref/number/hrs	Short Title	Prereqs: (where appropriate, use N/A or none)
PHYCS 115	Career Iss	none
PHYCS 120	Gen Physcs 1	MATHS 161 or MATHS 165 (CoR)
PHYCS 122	Gen Physcs 2	PHYCS 120; MATHS 162 or MATHS 166 (CoR)
PHYCS 260	Intro Modern	PHYCS 122
PHYCS 262	Modern Lab	PHYCS 260
PHYCS 330	Mechanics	PHYCS 120; MATHS 162
PHYCS 354	Electronic 1	PHYCS 122
PHYCS 483	Sem Phys	none
PHYCS 485	Meas Learn	PHYCS 260; PHYCS 330
CHEM 111	Gen Chem 1	high school algebra 1
CHEM 112	Gen Chem 2	CHEM 111; MATHS 108
CS 120	Comp Sci	MATHS 161 (CoR)
ITMFG 105	Tec Dsgn Gra	none
MATHS 165	Calculus 1	background
MATHS 166	Calculus 2	MATHS 165
MATHS 217	Lin Algebra	MATHS 165
MATHS 267	Calculus 3	MATHS 166

2. Please provide the following information for all directed elective courses in the proposed program (include new course/course revision forms where appropriate)

Pref/number/hrs	Short Title	Prereqs: (where appropriate, use N/A or none)
PHYCS 356	Electronic 2	PHYCS 354
CHEM 225	Analysis	CHEM 112
CHEM 234	Organic Ch 1	CHEM 112
CHEM 235	Organic Ch 2	CHEM 234
CHEM 344	Physl Chem 1	CHEM 235
CHEM 345	Physl Chem 2	CHEM 344

## Undergraduate Course Listing by Term (as of August 2008)

Undergraduate Courses by Term as of August 2008							
Course		Core Courses	Fall	Spring	SS1	SS2	Arranged
PHYCS	115	Career Issues in Physics	X				
PHYCS	120	General Physics I (calculus-based)	X	X	X		
PHYCS	122	General Physics II (calculus-based)	X	X		X	
PHYCS	260	Intro. to Modern Physics	X				
PHYCS	262	Modern Physics Laboratory		X			
PHYCS	330	Mechanics		X			
PHYCS	434	Thermodynamics		EVEN			
PHYCS	340	Physical Optics		ODD			
PHYCS	450	Electricity and Magnetism	X				
PHYCS	464	Intro. Quantum Mechanics	X				
PHYCS	369	Professional Experience					X
PHYCS	479	Practical Experience					X
PHYCS	482	Independent Studies in Physics					X
PHYCS	485	Measures of Learning in Physics	X				
		<b>Physics Electives</b>					
PHYCS	140	General Physics I (no lab - calculus-based)					X
PHYCS	141	General Physics I (lab - calculus-based)					X
PHYCS	142	General Physics II (no lab - calculus-based)					X
PHYCS	143	General Physics II (lab - calculus-based)					X
PHYCS	200	Topics in Physics					X
ASTRO	330	Astronomy and Astrophysics I	ODD				
ASTRO	332	Astronomy and Astrophysics II		EVEN			
PHYCS	346	Acoustics					X
PHYCS	354	Electronics 1	X				
PHYCS	356	Electronics 2		X			
PHYCS	360	Nuclear Techniques	EVEN				
PHYCS	370	Math Physics 1					X
PHYCS	372	Math Physics 2					X
PHYCS	390	Honors Colloquium in Physics					X
PHYCS	452	Electromagnetic Theory		X			
PHYCS	461	Elementary Particles	EVEN				
PHYCS	463	Nuclear Physics	ODD				
PHYCS	465	Quantum Mechanics		X			
PHYCS	466	Condensed Matter Physics	ODD				
PHYCS	469	Immersion Experiences Related to Physics and Astronomy					X
PHYCS	483	Seminar in Physics	X	X			
APHYS	310	Intro. to Nanoscience and Technology		ODD			
APHYS	312	Fundamentals of Nanomaterials Growth & Device Fabrication					X
APHYS	315	Medical Physics 1	EVEN				
APHYS	316	Medical Physics 2		ODD			
APHYS	420	Solar Thermal Systems					X
APHYS	422	Photovoltaics	EVEN				