## OFFICIAL UNDERGRADUATE COURSE OUTLINE INFORMATION

Students are advised to keep course outlines in personal files for future use. Shaded headings are subject to change at the discretion of the department – see course syllabus available from instructor.

<table>
<thead>
<tr>
<th>COURSE NAME/NUMBER</th>
<th>FACULTY/DEPARTMENT</th>
<th>UFV CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 275</td>
<td>Science/Physics</td>
<td>1</td>
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<table>
<thead>
<tr>
<th>COURSE DESCRIPTIVE TITLE</th>
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<tbody>
<tr>
<td>Survey of Medical Physics</td>
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### CALENDAR DESCRIPTION:

This course is meant to give students an overview of the field of Medical Physics. It will describe the different types of diseases, treatments, and research that Medical Physicists are involved with, the job prospects and salary, and the training required for a starting position and for advancement.

### PREREQUISITES:

- BIO 111 and one of PHYS 112 or PHYS 105

### COREQUISITES:

- PRE or COREQUISITES:

### SYNONYMOUS COURSE(S):

(a) Replaces: 
(b) Cross-listed with: 
(c) Cannot take: for further credit.

### SERVICE COURSE TO:

(department/program)

### TOTAL HOURS PER TERM: 15

<table>
<thead>
<tr>
<th>STRUCTURE OF HOURS:</th>
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<tr>
<td>Lectures: 10 Hrs</td>
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<tr>
<td>Seminar: Hrs</td>
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<tr>
<td>Laboratory: Hrs</td>
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<tr>
<td>Field experience: 5 Hrs</td>
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<tr>
<td>Student directed learning: Hrs</td>
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<tr>
<td>Other (specify): Hrs</td>
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### TRAINING DAY-BASED INSTRUCTION:

<table>
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<tr>
<th>Length of course:</th>
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<tr>
<td>Hours per day:</td>
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### OTHER:

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<th>Maximum enrolment: 24</th>
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<tr>
<td>Expected frequency of course offerings: annually</td>
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<tr>
<td>(every semester, annually, every other year, etc.)</td>
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### WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only)

- Yes
- No

### WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department)

- Yes
- No

### TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE:

- Yes
- No

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**Course designer(s):** Dr. Iulian Badragan/Dr. Bilal Shahine/Norm Taylor  
**Department Head:** Dr. Peter Mulhern  
**Supporting area consultation (Pre-UPAC):**  
**Curriculum Committee chair:**  
**Dean/Associate VP:** Dr. Dan Ryan  
**Undergraduate Program Advisory Committee (UPAC) approval:**

**Date approved:** November 2009  
**Date of meeting:** November 20, 2009  
**Date approved:** January 2010  
**Date approved:** January 2010  
**Date of meeting:** January 29, 2010
LEARNING OUTCOMES:
Upon successful completion of this course, students will be able to:
- Demonstrate an understanding of the different types and techniques of Medical Physics.
- Demonstrate an understanding of the training required to be a Medical Physicist.
- Demonstrate an understanding of the different types of cancers that Medical Physicists help to treat.

METHODS: (Guest lecturers, presentations, online instruction, field trips, etc.)
Most of the material will be presented in lecture and guest lecture format, but there will also be a large field trip component (site visits). Students will be expected to provide their own transportation. Class presentations and/or an essay may also be required.

METHODS OF OBTAINING PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):
- Examination(s)
- Portfolio assessment
- Interview(s)
- Other (specify): Evidence of related experience in the field

PLAR cannot be awarded for this course for the following reason(s):

TEXTBOOKS, REFERENCES, MATERIALS:
[Textbook selection varies by instructor. An example of texts for this course might be:]
Literature from Canadian Organization of Medical Physicists (COMP) website (www.medphys.ca) and American Association of Physicists in Medicine (AAPM) website (www.aapm.org)

SUPPLIES / MATERIALS:

STUDENT EVALUATION:
[An example of student evaluation for this course might be:]
Homework (essays): 25%
Participation/attendance: 25%
Final exam 50%

COURSE CONTENT:
[Course content varies by instructor. An example of course content might be:]
- The object of Medical Physics
- Specialties:
  1. Imaging and diagnostic techniques:
     a. Positron Emission Tomography and Computed Tomography (PET-CT)
     b. Computed Tomography (CT)
     c. Magnetic Resonance Imaging (MRI)
     d. Ultrasound, film, other
  2. Nuclear Medicine (radioactive intake, specific imaging techniques)
  3. Radiation Oncology (tumor treatment using external radiation or radioactive sources – Linear Accelerators (Linacs), Low Dose and High Dose Radiotherapy (LDR and HDR), and specific imaging techniques such as Onboard Imaging (OBI) and Electronic Portal Imaging Device (EPID))
- Forms of cancer
- Jobs and salary range (US, Canada, Europe, other)
- Training requirements
- Site visits
- Essay (list of topics provided, or alternative approved by the instructor)