

LONG SIGNATURE SHEET



UNC CHARLOTTE

CNAS DEAN'S OFFICE
RECEIVED
 10/1/10
 Revised
RECEIVED
 11-04-10

Proposal Number: POS 9-24-10

Proposal Title Addition of new course: OPTI 5000 Selected Topics in Optics
and removal of Medical Physics concentration in M.S. Appl. Phys.

Originating Department Physics and Optical Science

TYPE OF PROPOSAL: UNDERGRADUATE _____ GRADUATE UNDERGRADUATE & GRADUATE _____

DATE RECEIVED	DATE CONSIDERED	DATE FORWARDED	ACTION	SIGNATURES
10-1-10	10-1-10	10-1-10	approved	<u>DEPARTMENT CHAIR</u>
11/4/2010	11/5/2010 10/15/2010	sent to FC 11-5-10	approved	<u>COLLEGE CURRICULUM COMMITTEE CHAIR</u>
11/5/10	12/3/10	12/3/10	approved	<u>TEACHER EDUCATION COMMITTEE CHAIR</u> <small>(Teacher Education Program proposals only)</small>
↓	↓	↓	↓	<u>COLLEGE FACULTY CHAIR</u>
	12/3/10	12/3/10	approved	<u>COLLEGE DEAN</u>
				<u>UNDERGRADUATE COURSE & CURRICULUM COMMITTEE CHAIR</u> (for undergraduate courses)
1-27-11	2-1-11	2-4-11	Approved	<u>GRADUATE COUNCIL CHAIR</u> <small>(for graduate courses)</small>
				<u>FACULTY GOVERNANCE SECRETARY</u> <small>(noting Faculty Council approval on Consent Calendar)</small>
				<u>FACULTY EXECUTIVE COMMITTEE</u> <small>(if decision is appealed)</small>

I. Heading and proposal number

University of North Carolina at Charlotte

Revised Graduate

Department of Physics and Optical Science

POS 9-24-10

Addition of new OPTI course and removal of Medical Physics concentration from the M.S. Applied Physics program.

II. Content of proposals

- A. 1. Summary The Department of Physics and Optical Science proposes to add one course under the OPTI prefix and also proposes to remove the Medical Physics concentration from the M.S. Applied Physics program.
2. Proposed Catalog Copy

For the **first proposal**: In the section: **OPTICAL SCIENCE AND ENGINEERING**

Under **M.S. OPTICS ELECTIVES** insert the following:

OPTI 5000. Selected Topics in Optics. (3). Prerequisite: Consent of Optics Program Director. Selected topics in optics from areas such as medical optics, adaptive optics, all optical networks, etc. May be repeated for up to 6 hours of credit with consent of the Optics Program Director. (Fall/Spring/Summer)

For the **second proposal**: In the section: **PHYSICS**

Under **Degree Requirements** change the following to read:

The Department of Physics and Optical Science has two concentrations within the M.S. in Applied Physics program that include both thesis and non-thesis degree options:

- 1) Applied Physics Concentration (Thesis or non-thesis option)
 - 2) Applied Optics Concentration (Thesis option only)
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Also for the **second proposal**, delete the following paragraphs:

A student selecting the Medical Physics concentration should do so prior to enrolling. The Medical Physics concentration is designed for students wishing to pursue careers in such medical fields as radiology or medical imaging or as a research scientist/technician with companies developing and manufacturing medical equipment.

The medical physics concentration is designed to accept

students having undergraduate majors in physics, chemistry, and engineering. Applicants for admission to the Medical Physics concentration must, as a minimum, present earned credit for the equivalent of the UNC Charlotte courses listed below.

PHYS 2101 and PHYS 2101L Physics for Science & Engineering I and Lab (4)

PHYS 2102 and PHYS 2102L Physics for Science & Engineering II and Lab (4)

PHYS 3101 Topics & Methods of General Physics (3)

PHYS 3141 Introduction to Modern Physics (3)

MATH 1241, 1242, 2241, 2242, and 2171 (15)

CHEM 1251, 1251L, 1252, 1252L - Principles of Chemistry and Labs (8)

Students lacking courses in anatomy and physiology will be required to take BIOL 1273 and 1273 Laboratory - Human Anatomy and Physiology - 4 credit hours. Students lacking courses in basic circuit theory and electronics will be required to take ECGR 2161 - Basic Electrical Engineering I - 3 credit hours.

A candidate for the degree must present credit for the following courses.

PHYS 6210 Theoretical Physics

PHYS 5232 Electromagnetic Theory II

PHYS 5242 Modern Physics II

PHYS 6261 Nuclear Physics

PHYS 6301 Radiation Detection, Instrumentation, & Data Analysis

PHYS 6302 Radiation Protection and Dosimetry

PHYS 6303 Imaging in Medicine

PHYS 6304 Physics of Diagnostic Radiology & Radiotherapy

PHYS 6401 Clinical Medical Physics (6 credit hours)

Also for the **second proposal**, delete the following courses:

PHYS 6301. Radiation Detection, Instrumentation, and Data Analysis. (3) Charged particle, neutron, and photon detection. Signal processing and data recording methods including techniques of data analysis and error propagation. The course will consist of two lectures and one two-hour laboratory each week. The course will emphasize application of radiation detectors used in radiotherapy and diagnostic radiology. Two lecture hours and one two-hour laboratory each week. (*Fall*)

PHYS 6302. Radiation Protection and Dosimetry. (3) Radiation dosimetry fundamentals including photon, electron, and neutron dosimetry. Radiation transport. Fundamentals of radiation protection and shielding. Assessment of effective dose. Three lecture hours per week. (*Spring*)

PHYS 6303. Imaging in Medicine. (3) Prerequisites: PHYS 6210 and PHYS 6301. The fundamental conceptual, mathematical, and statistical aspects of imaging science, and a survey from this formal viewpoint of various medical

imaging modalities, including film-screen radiography, positron and x-ray computed tomography, ultrasound, and magnetic resonance imaging. (*Fall*)

PHYS 6304. Physics of Diagnostic Radiology and Radiotherapy. (3) Prerequisites: PHYS 6210 and PHYS 6302. Physics of x-ray diagnostic procedures and equipment. Physics of the interaction of the various radiation modalities with body-equivalent materials. Physical aspects of clinical applications including radiation therapy to cause controlled biological effects in patients. Three lecture hours per week. (*Spring*)

PHYS 6401. Clinical Medical Physics. (1-3) Prerequisite: Permission of Program Director. Eighty to one hundred supervised contact hours of clinical internship at a regional health care system. May be repeated for a maximum of 12 credit hours. Graded Pass/No-credit. (*Fall, Spring, Summer*)

II. B. Justification

For the proposal to add OPTI5000 courses: The Interdisciplinary Optical Science and Engineering Program has recently instituted an early entry program for qualified seniors in the sciences and engineering disciplines. All current OPTI courses are at the 6XXX or 8XXX level. There are currently no OPTI courses at the 5XXX level that a student can enroll in to count both toward their undergraduate degree and their future graduate degree. With this addition, students can enroll in an OPTI5000 course commensurate with the material presented in a respective 6XXX course.

Furthermore, because the program is interdisciplinary, students from the College of Liberal Arts and Science and students from the College of Engineering can enroll in optics-related courses offered by the College of Engineering and receive OPTI credit toward their degree with courses cross-listed with MEGR or ECGR prefixes.

For the proposal to remove the Medical Physics concentration from the Physics program: Recent dictates of the Commission on Accreditation of Medical Physics Educational Programs (CAMPEP) has placed new stringent requirements on clinical training facilities, faculties, and student residency requirements. The Department of Physics and Optical Science has deemed that we cannot realistically meet these requirements without a large commitment of resources, including a formal partnership with a school of medicine. Removal of the concentration at this time does not affect any students who have graduated from our program. There currently are no students enrolled in the MS Applied Physics program with this concentration, so the change will not affect any current students.

C. Impact

For the proposal to add OPTI5000 courses: Undergraduate early-entry students and graduate students in the engineering disciplines will benefit from having this course listing option available.

For the proposal to remove the Medical Physics concentration from the Physics program: Those courses that were specific to the medical physics concentration will be removed. Students were restricted in these courses to those in the medical physics concentration, so there will be no negative impact for future students.

D. Resource Required to Support Proposal

There are no additional personnel, physical facility, equipment, computer, or audio-visual resources required for these proposals.

E. Consultation with the Library and Other departments or Units. Resource Required to Support Proposal

1. Library Consultation (attached)

F. Initiation and Consideration of the Proposal

1. Originating Unit: The proposal for the OPTI5000 courses originated with the Interdisciplinary Optics Program Committee (Dr. Davies, program director) and the proposal to remove the Medical Physics concentration was proposed by the Graduate Coordinator for the Department and unanimously approved by the Graduate Committee.

G. Attachments

1. Library Consultation
2. Syllabi. The new graduate courses are “Selected Topics” courses and do not have a unified syllabus.

**J. Murrey Atkins Library
Memorandum**

TO: Dr. Robert Tyson, Physics/Optical Science
FROM: Barbara G. Tierney, Liaison Librarian, Physics/Optical Science
DATE: 9/28/10
RE: Consultation with Library for Course and Curriculum proposal

Date of initiation of consultation with Library Reference personnel: Request received 9/22/10

Proposal No: OPTI 5000 Selected Topics in Optics Selected topics in optics from areas such as medical optics, adaptive optics, all optical networks. May be repeated for up to 6 hours of credit with consent of the Optics Program Director.

SUMMARY OF REFERENCE LIBRARIAN'S EVALUATION OF HOLDINGS;

Evaluator: Barbara G. Tierney Date: 9/28/10

- Check one:
1. Holdings are superior.
 2. Holdings are adequate. **X (Please see "Comments")**
 3. Holdings are adequate only if Dept. purchases additional holdings.
 4. Holdings are inadequate.

COMMENTS:

I believe that the J. Murrey Atkins Library has sufficient relevant databases, indexes, journals, and books to support the new OPTI 5000 Selected Topics in Optics course. Please see the following pages for a summary of these relevant library resources.

INDEXES AND DATABASES:

Atkins Library currently provides numerous relevant print and electronic databases and indexes to support this course. Relevant databases and indexes include:

Biotechnology & Bioengineering Abstracts (Cambridge Scientific Abstracts)

Compendex

Institute of Physics

PubMed

Science Direct

SPIE Digital Library

Springer-Verlag Link

Web of Science

Wiley Interscience

A search of the Atkins Library online catalog reveals the current number of monographic titles in each of the below listed Library of Congress subject headings (or keywords) and the currency of these holdings.

Journals:

ISI's "Journal Citation Reports" lists a total of seventy selected Optics journal titles (listed below in "impact factor" order) on which it collects data. Atkins Library has access to fifty-two titles out of the seventy titles (or 74%). The titles to which Atkins has access are indicated by a "have" note next to the journal title. Individual journal articles that are not available in-house may be requested through the Library's Interlibrary Loan Service.

Ranking is based on your journal and sort selections.

Mark	Rank	Abbreviated Journal Title (linked to journal information)	IS SN	JCR Data ⓘ						Eigenfactor™ Metrics ⓘ	
				Total Cit es	Imp act Factor	5- Yea r Imp act Factor	Imme diacy Index	Arti cles	Cit ed Hal f- life	Eigenfa ctor™ Score	Article Influe nce™ Score
<input type="checkbox"/>	1	NAT PHOTONICS	1749-4885	3468	22.869	23.215	5.402	82	2.0	0.03606	13.328
<input type="checkbox"/>	2	LASER PHOTONICS REV	1863-8880	328	5.814	5.814	2.200	35	1.6	0.00281	3.141
HAVE <input type="checkbox"/>	3	OPT EXPRESS have	1094-4087	32080	3.278	3.477	0.584	2548	3.1	0.19951	1.235
HAVE <input type="checkbox"/>	4	ADV ATOM MOL OPT PHY Have	1049-250X	937	3.087	3.113	0.333	6	9.8	0.00236	1.825
HAVE <input type="checkbox"/>	5	IEEE J SEL TOP QUANT	1077-260X	5719	3.064	3.137	0.576	205	5.9	0.02604	1.409
HAVE <input type="checkbox"/>	6	OPT LETT	0146-9592	36454	3.059	3.299	0.598	1308	6.4	0.13067	1.246
HAVE <input type="checkbox"/>	7	PHYS REV A	1050-2947	84617	2.866	2.895	0.758	2537	8.4	0.23892	1.084
HAVE <input type="checkbox"/>	8	PROG OPTICS	0079-6638	949	2.667		6.750	4	>10.0	0.00150	
HAVE	9	J BIOMED OPT	1083-3668	4917	2.501	2.911	0.326	322	4.1	0.02173	0.864
HAVE <input type="checkbox"/>	10	J LIGHTWAVE TECHNOL	0733-87	12227	2.185	2.598	0.226	660	6.3	0.04189	0.909

			24									
<input type="checkbox"/>	HAVE	11	PHOTONIC NANOSTRUCT	15 69- 44 10	254	2.13 1		0.321	28	2.5	0.00215	
<input type="checkbox"/>	HAVE	12	J OPT SOC AM B	07 40- 32 24	102 36	2.08 7	1.97 8	0.396	381	9.1	0.02721	0.794
<input type="checkbox"/>	HAVE	13	J SYNCHROTRON RADIAT	09 09- 04 95	277 0	1.99 4	2.82 9	0.790	119	6.1	0.01232	1.316
<input type="checkbox"/>	HAVE	14	APPL PHYS B-LASERS O	09 46- 21 71	834 6	1.99 2	2.15 8	0.472	436	5.8	0.03073	0.781
<input type="checkbox"/>	HAVE	15	J DISP TECHNOL	15 51- 31 9X	424	1.92 8		0.319	72	2.7	0.00338	
<input type="checkbox"/>	HAVE	16	J PHYS B-AT MOL OPT	09 53- 40 75	137 33	1.91 0	1.89 0	0.543	521	9.5	0.03760	0.745
<input type="checkbox"/>	HAVE	17	J LUMIN	00 22- 23 13	739 6	1.84 7	1.84 7	0.295	403	6.4	0.02080	0.547
<input type="checkbox"/>	HAVE	18	IEEE PHOTONIC TECH L	10 41- 11 35	131 03	1.81 5	1.77 6	0.346	546	5.4	0.05244	0.630
	HAVE	19	OPT MATER	09 25- 34 67	455 2	1.72 8	1.77 9	0.238	361	5.0	0.01675	0.538
<input type="checkbox"/>		20	J OPT SOC AM A	10 84- 75 29	115 91	1.67 0	1.71 4	0.350	317	>1 0.0	0.02279	0.639

Mark	Rank	Abbreviated Journal Title (linked to journal information)	ISSN	JCR Data ⁱ						Eigenfactor™ Metrics ⁱ	
				Total Citations	Impact Factor	5-Year Impact Factor	Immediacy Index	Articles	Cited Half-life	Eigenfactor™ Score	Article Influence™ Score
HAVE <input type="checkbox"/>	21	INT J PHOTOENERGY	1110-662X	408	1.494	1.500	0.000	34	4.5	0.00167	0.451
<input type="checkbox"/>	22	J OPT NETW	1536-5379	556	1.489		0.368	38	3.0	0.00354	
HAVE <input type="checkbox"/>	23	MICROELECTRON ENG	0167-9317	5616	1.488	1.456	0.291	556	4.4	0.02465	0.491
HAVE <input type="checkbox"/>	24	IMAGE VISION COMPUT	0262-8856	2926	1.474	1.767	0.286	161	6.7	0.00782	0.592
HAVE <input type="checkbox"/>	25	APPL OPTICS	0003-6935	27772	1.410	1.522	0.282	1045	>10.0	0.05604	0.556
HAVE <input type="checkbox"/>	26	OPT COMMUN	0030-4018	14516	1.316	1.342	0.359	877	7.3	0.04051	0.447
<input type="checkbox"/>	27	J OPT SOC KOREA	1226-4776	166	1.278		0.269	78	1.7	0.00042	
HAVE <input type="checkbox"/>	28	OPT LASER ENG	0143-8166	1390	1.262	1.253	0.302	192	5.2	0.00462	0.379
HAVE <input type="checkbox"/>	29	J NANOPHOTONICS	1934-2608	122	1.256		0.350	40	1.9	0.00090	
HAVE <input type="checkbox"/>	29	LIGHTING RES TECHNOL	1477-1535	372	1.256		0.143	21	8.0	0.00073	
HAVE	31	J OPT A-PURE	146	228	1.19	1.32	0.426	343	4.2	0.01175	0.499

<input type="checkbox"/>		APPL OP	4-4258	8	8	0						
HAVE <input type="checkbox"/>	32	OPTO-ELECTRON REV	1230-3402	409	1.168	1.027	0.250	52	4.5	0.00177	0.331	
HAVE <input type="checkbox"/>	33	J SOC INF DISPLAY	1071-0922	809	1.033		0.252	139	3.5	0.00347		
HAVE <input type="checkbox"/>	34	JET OPTOELECTRON	1751-8768	93	0.989	0.989	0.154	39		0.00064	0.351	
HAVE <input type="checkbox"/>	35	OPT LASER TECHNOL	0030-3992	1268	0.981	0.938	0.381	160	4.9	0.00436	0.288	
HAVE <input type="checkbox"/>	36	J MOD OPTIC	0950-0340	3353	0.942	0.931	0.291	296	8.7	0.00955	0.388	
HAVE <input type="checkbox"/>	37	OPT FIBER TECHNOL	1068-5200	465	0.939	1.063	0.224	76	6.2	0.00138	0.350	
HAVE <input type="checkbox"/>	38	INFRARED PHYS TECHN	1350-4495	993	0.903	1.013	0.125	80	8.3	0.00295	0.373	
HAVE <input type="checkbox"/>	39	DISPLAYS	0141-9382	530	0.812	1.277	0.258	31	6.4	0.00174	0.446	
<input type="checkbox"/>	40	CHIN OPT LETT	1671-7694	661	0.804		0.040	321	2.6	0.00136		

Mark	Ra	Abbreviated	ISS	JCR Data 	Eigenfactor™
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	nk	Journal Title (linked to journal information)	N							Metrics ⁱ	
				Total Cites	Imp act Factor	5- Year Imp act Factor	Imme diacy Index	Artic les	Cit ed Hal f- life	Eigenfac tor™ Score	Article Influen ce™ Score
<input type="checkbox"/>	41	J EUR OPT SOC- RAPID	199 0- 257 3	91	0.79 7	0.76 2	0.250	52		0.00070	0.334
HAVE <input type="checkbox"/>	42	PHOTONIC NETW COMMUN	138 7- 974 X	36 7	0.76 5	0.84 7	0.075	67	5.2	0.00121	0.222
HAVE <input type="checkbox"/>	43	J RUSS LASER RES	107 1- 283 6	24 0	0.74 8	0.75 2	0.231	65	3.7	0.00067	0.154
HAVE <input type="checkbox"/>	44	MICROW OPT TECHN LET	089 5- 247 7	41 41	0.68 2	0.61 4	0.151	845	4.5	0.01679	0.201
<input type="checkbox"/>	45	LASER PHYS	105 4- 660 X	12 93	0.67 6	0.59 1	0.263	346	4.5	0.00521	0.213
HAVE <input type="checkbox"/>	46	OPT QUANT ELECTRON	030 6- 891 9	11 09	0.65 7	0.68 1	0.150	20	8.7	0.00291	0.249
HAVE <input type="checkbox"/>	47	INT J IMAG SYST TECH	089 9- 945 7	42 6	0.65 3	1.02 5	0.049	41	8.5	0.00167	0.496
<input type="checkbox"/>	48	J LASER APPL	104 2- 346 X	37 7	0.65 2	0.85 2	0.000	24	7.4	0.00100	0.264
<input type="checkbox"/>	49	INT J INFRARED MILLI	019 5- 927 1	69 6	0.57 6	0.44 4		0	7.1	0.00221	0.161
HAVE <input type="checkbox"/>	50	J X-RAY SCI TECHNOL	089 5- 399 6	15 3	0.57 1	0.78 0	0.000	25	5.6	0.00058	0.255
HAVE	51	OPT ENG	009 1-	48 63	0.55 3	0.65 8	0.083	360	9.1	0.01025	0.211

<input type="checkbox"/>			328 6									
HAVE <input type="checkbox"/>	52	J NONLINEAR OPT PHYS	021 8- 863 5	29 3	0.54 9	0.46 2	0.147	34	6.8	0.00079	0.146	
HAVE <input type="checkbox"/>	53	J MICRO- NANOLITH MEM	153 7- 164 6	93	0.54 1	0.54 1	0.164	128		0.00046	0.166	
HAVE <input type="checkbox"/>	54	OPT REV	134 0- 600 0	48 4	0.52 9	0.55 9	0.142	120	6.5	0.00138	0.192	
HAVE <input type="checkbox"/>	55	OPT SPECTROSC+	003 0- 400 X	22 53	0.50 5	0.46 2	0.201	289	>1 0.0	0.00399	0.134	
HAVE <input type="checkbox"/>	56	LEUKOS	155 0- 272 4	54	0.50 0	0.55 7	0.278	18		0.00036	0.195	
<input type="checkbox"/>	57	OPTOELECTRON ADV MAT	184 2- 657 3	17 6	0.45 1	0.45 4	0.095	285	2.0	0.00073	0.107	
HAVE <input type="checkbox"/>	58	J ELECTRON IMAGING	101 7- 990 9	86 4	0.44 4	0.85 5	0.062	65	6.8	0.00299	0.331	
<input type="checkbox"/>	59	J OPTOELECTRON ADV M	145 4- 416 4	17 10	0.43 3	0.48 9	0.078	399	3.8	0.00619	0.115	
<input type="checkbox"/>	60	J LASER MICRO NANOEN	188 0- 068 8	71	0.42 9	0.48 9	0.043	46		0.00024	0.084	

Mark	Ra	Abbreviated	ISS	JCR Data 	Eigenfactor™
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	nk	Journal Title (linked to journal information)	N							Metrics ⁱ	
				Total Cit es	Imp act Fact or	5- Year Imp act Fact or	Immed iacy Index	Artic les	Cit ed Hal f- life	Eigenfac tor™ Score	Article Influen ce™ Score
HAVE <input type="checkbox"/>	61	FIBER INTEGRATED OPT	014 6- 803 0	17 1	0.42 5	0.44 0	0.182	33	6.9	0.00050	0.143
HAVE <input type="checkbox"/>	62	OPTIK	003 0- 402 6	11 83	0.37 8	0.45 9	0.082	182	>1 0.0	0.00148	0.132
<input type="checkbox"/>	63	OPT APPL	007 8- 546 6	16 5	0.35 8	0.29 7	0.020	99	4.7	0.00050	0.067
<input type="checkbox"/>	64	INT J OPTOMECHATR ONI	155 9- 961 2	17	0.35 4	0.35 4	0.000	20		0.00010	0.103
HAVE <input type="checkbox"/>	65	LASER FOCUS WORLD	104 3- 809 2	25 2	0.20 3	0.17 1	0.082	73	7.4	0.00067	0.059
<input type="checkbox"/>	66	J OPT TECHNOL+	107 0- 976 2	37 4	0.20 1	0.20 8	0.049	163	5.9	0.00103	0.056
HAVE <input type="checkbox"/>	67	MICROLITHOGR WORLD	107 4- 407 X	21	0.18 8	0.19 5		0		0.00016	0.093
<input type="checkbox"/>	68	LASER ENG	089 8- 150 7	97	0.17 9	0.23 5	0.000	13		0.00027	0.085
<input type="checkbox"/>	69	PHOTONIC SPECTRA	073 1- 123 0	11 5	0.10 5	0.09 0	0.022	93	3.9	0.00064	0.037
<input type="checkbox"/>	70	J INFRARED MILLIM TE	186 6- 689 2	18			0.132	136		0.00000	
HAVE	70	J OPT COMMUN NETW	194 3-	2			0.021	94		0.00000	

<input type="checkbox"/>			062 0								
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A search of the Atkins Library Online Catalog reveals the current number of monographic titles in each of the below listed Library of Congress subject headings (or keywords) and the currency of these holdings.

L.C.Subj.Head.or Keywords	Total Atkins Titles	#Titles 2002+
Biomedical Engineering	37	16
Biophysics	62	8
Biosensors	17	4
Biosensors – Congresses	112	73
Biotechnology	61	21
Diagnostic Imaging	24	11
Diagnostic Imaging Methods (keywords)	148	46
Fiber Optics	112	12
Lasers	108	6
Lasers in Medicine	9	5
Lasers in Medicine Congresses	189	70
Medical Physics	18	3
Nanotechnology	79	66
Nanotechnology – Congresses	87	61
Optical Networks	45	16
Optics, Adaptive	11	0
Optics, Adaptive – Congresses	49	23
L.C.Subj.Head.or Keywords	Total Atkins Titles	#Titles 2002+

Optics	92	8
Optics – Congresses	72	30
Photonics	21	11
Photonics – Congresses	190	125
Ultrasonic Imaging	10	3

SUMMARY:

I believe that the J. Murrey Atkins Library has sufficient relevant databases, indexes, journals, and books to support the new OPTI 5000 Selected Topics in Optics course. It is recommended, however, that the Physics/Optical Science Department continue to purchase additional current monographic materials in the above subject areas to update relevant collections.

Barbara Tierney *Barbara Tierney, Liaison Librarian to Dept. of Physics*, Sept. 28, 2010

Evaluator's Signature

Date

J. Murrey Atkins Library

Phone: 704-687-3098; Fax: 704-687-2232 bgtierne@uncc.edu