Graduate Council Curriculum Committee
February 4, 2010
12:00 p.m., MH 395

Agenda

1. Welcome and call to order
2. Approval of minutes from meeting of 01/21
3. Addition of a PSM in Biotechnology, COM
4. Equipment fee request, COM
5. Curriculum revisions to the ME.d. in Educational Leadership, COE
6. Curriculum revisions to the MS in Early Child Development and Education, COE
7. Curriculum revisions to the Ph.D. in Physics, COS
8. Courses and special topics
9. Adjournment

Members of the Graduate Council Curriculum Committee:

Patricia Bishop, Ex Officio for CGS
Deborah Breiter, RCHM
Jane Gibson, COM
Naim Kapucu, COHPA
Jean Kijek, CON
Eduardo Mucciolo, COS
Joyce Nutta, COE, Chair
Max Poole, Liaison for CGS
Tison Pugh, CAH
Martin Richardson, COP
Sergio Tafur, GSA
James Turkson, COM
Art Weeks, CECS

Professional Science Master's Program in Biotechnology

Summary:

We have existing **B.S. Biotechnology and M.S. Biotechnology** programs at UCF. This proposal requests establishing a track in the MS in Biotechnology that will be named the PSM Program in Biotechnology, that offers both technical and professional content to students to enable them to be immediately employable in the biotechnology sector.

According to the Board of Trustees report (November 2009), for the BS Biotechnology degree program, the projected enrollment was 17, 29 and 47 for years 1-3 (2007-2009) in the program proposal that I submitted. Actual enrollment has been 20, 83 and 135. So, we exceeded the headcount by 300% and already graduated 25 students!!

There are 1,473 biotechnology companies in the United States, of which 314 are publicly held. There are more than 50 biotechnology companies in Florida. According to the U.S. Dept of Labor Statistics the US employment of biological scientists is projected to grow 9 % over the 2006-16 decade, about twice as fast as the average for all occupations, as biotechnological research and development continues to drive job growth. This industry will employ more than a million new jobs in the next three years. Some estimates indicate that the biotechnology industry in the United States could employ five times the current number of workers by 2015. Researchers in the UCF college of Medicine, College of Nursing, College of Health and Public Affairs, VA hospital, Nemours Children's hospital and M D Anderson Cancer Institute that would be located in the immediate vicinity will also be part of the large biomedical research community at Lake Nona. This is a 7,000-acre master planned new community with 600 acre Science & Technology Park. The UCF College of Medicine combined with Life sciences cluster in ten years has been projected by the Milken Institute to create 30,000 jobs, $459.9 million in tax revenue, $2.8 billion in wages and 7.8 billion in economic activity. Within two years, 80% of the ten year economic activity has been already committed. The Bioscience Industry is emerging as one of the key technology sectors in Florida with its continued growth by the addition of the Max Planck Institute in Jupiter, Scripps Institute in Palm Beach and the Burnham Institute in Lake Nona, Orlando. Therefore, it is important to train students in both technical and non-technical fields in the biotech industry.

In 2008-09 we received 300% more applicants for the M.S. Biotechnology degree program but provided admission only to four students with support out of 41 applicants. This is because of limited funds available for GTA and tuition waivers. Thankfully, a few students had external scholarship support from foreign governments or other sources. According to the BOT report, our acceptance rate is the lowest among new degree programs. The GRE scores range 902-1070 (mean 1014) for other majors whereas the mean GRE score for the MS Biotechnology is 1221 (207 points higher than other new graduate programs). Therefore, we have the highest GRE scores but lowest resources. The quality of our applicants is good, but no new tuition waiver or GTA support monies were provided for the second year of this new MS program. However, we have 16 MS students with anticipated graduation of 50% in the summer of 2010.

The Professional Science Master's program will help to admit more students and also the non-thesis option will relieve some of the burden of supporting students in our laboratories that exists with our existing MS in Biotechnology that requires a thesis. It is planned that

students in the PSM will not do thesis research but will engage in a required internship. The internship will provide some financial support. Currently 50% of MS Biotechnology students are supported by their own funds.

The PSM as envisioned will be an expedited program of 4 semesters with completion of 12 credits each in the fall and spring semesters (no lab research or teaching required during this course work). An internship is required (6 credits) in industries, research foundations or non-profit organizations, hospitals, technology transfer programs, etc. Required internships will significantly enhance student job opportunities. In addition, the internship may be paid, and thus, provide some financial support. Internships are scheduled in the summer to facilitate opportunities nationwide. It is the responsibility of students and not the program to secure internships, although the program will closely monitor the internships and the experiences that students will receive. Unique biotechnology industrial perspective seminars will be offered each semester in which guest lectures will be offered by administrators and scientists from the biotech industry to provide training for students in career opportunities and experiences in industries. These courses provide contact for internship opportunities. The professional content courses will begin in the previous summer or following Fall and completion of this will result in the awarding of the MS degree in Biotechnology.

CURRICULUM

The Master of Science in Biotechnology program consists of 42 semester credit hours of graduate courses offered by the Burnett School of Biomedical Sciences in College of Medicine, including 12 credit hours of required courses and graduate seminar, 12 credits of restricted electives, 12 hours of professional content courses, and 6 credit hours of an internship as detailed below. The duration of this program will be two semesters and two summers.

Total Credit Hours Required:

42 Credit Hours Minimum beyond the Bachelor's Degree

What makes this program unique is the focus on practical training offered to graduate students through biotechnology laboratory courses and internship to perform jobs in laboratory environment that require understanding of scientific concepts. One year MBA degree will provide management skills necessary in business administration.

Technical Content – 24 Credit Hours consisting of:

Required Courses—9 Credit Hours

- MCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- MCB 5722 Methods in Biotechnology (3 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)

Graduate Seminar —3 Credit Hours

Students will participate in at least one graduate seminar course (MCB 5937, Industrial Perspectives Seminar, 3 credits). These seminar courses will prepare students for making professional presentations with emphasis in biotechnology and will involve participation of speakers from the biotechnology industry, with emphasis on an industrial perspective on biotechnology applications and product development.

Elective Courses—12 Credit Hours

Students will select twelve credit hours of restricted electives from the list below.

- BSC 5418 Tissue Engineering (3 credit hours)
- CHS 6535 Forenesic Analysis of Bilogical Materials (2 credit hours)
- CHS 6535L Forensic Analysis of Biological Materials (2 credit hours)
- CHS 6536 Forensic Analysis of DNA Data (2 credit hours)
- GEB 6516 Technology Commercialization (3 credit hours)
- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)
- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 5932 Current Topics in Molecular Biology (3 credit hours)
- MCB 6226 Molecular Diagnostics (3 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- MCB 6938 Seminar (1-2 credit hours)
- PCB 5238 Immunobiology (3 credit hours)
- PCB 5239 Tumor Biology (3 credit hours)
- PCB 5275 Signal Transduction Mechanisms (3 credit hours)
- PCB 5937 Special Topics: Human Endocrinology (3 credit hours)
- PCB 6528 Plant Molecular Biology (3 credit hours)
- PCB 6596 Bioinformation and Genomics (3 credit hours)
- ZOO 5745C Essentials of Neuroanatomy (4 credit hours)

Professional Content – 12 Credit Hours

Biotechnology MS students will be required to take the following four required courses of the MBA program. The College of Business will reward a graduate certificate for those who complete the professional content. Should students wish to continue with the MBA program, they may complete the MBA within one year. The MBA program will begin each fall semester and the MBA Foundation courses (12 credit hours) are required for all non-business majors. They are offered in spring and summer and must be completed prior to starting the MBA Professional Core classes.

These foundation courses in Business Administration consist of:

- ACG 6065 Accounting Foundations (3 credit hours)
- ECO 6418 Economic Concepts with Math Applications (3 credit hours)
- ECO 6405 Business Statistical Concepts and Methods (3 credit hours)

- FIN 6404 Foundations of Finance (3 credit hours)

Completion of the technical content, professional content and internship will result in the MS degree in the PSM in Biotechnology.

Internship—6 Credit Hours

Students will take a minimum of six credits of internship to complete their studies in a biotechnology setting. Current opportunities for internship include more than fifty biotechnology companies in Florida, Research institutions like Burnham Institute, MD Anderson Cancer Center, Scripps, Torrey Pines, Florida Hospital, Orlando Regional Medical Center, research centers associated with hospitals, etc. Internships are scheduled in the summer so that students can find internship opportunities within or outside Florida.

Suggested Sequence of Courses for PSM completion

Summer 1 or Fall 2	**Fall 1**	**Spring 1**	**Summer 2**
Professional content courses (MBA Foundation)	**MCB 5527**	**MCB 5722**	**Internship**
	2 electives	**IDS 5127**	
	Seminar	**2 electives**	
12 hours	**12 hours**	**12 hours**	**6 hours**

Industrial Advisory Board:

The MS program will have an Industrial Advisory Board consisting of the Coordinator of the Biotechnology programs at UCF, Dr. Henry Daniell (founded the first biotechnology at UCF), Dr. P. E. Kolattukudy, Director of BSBS, UCF, Dr. Daniel Kelley, Director of Burnham Institute, Dr. Cheryl Baker, Director of MD Anderson Cancer Center, DR. Sudipta Seal, Director of Nanoscience Technology Center, Mr. Raymond Gilley, President, Metro Orlando Economic Development Commission and Randy Berridge, President, Florida High Tech Corridor. The Industrial Advisory Board will have expertise in both educational and industrial aspects.

MBA Option

It is possible that students may wish to complete the MBA degree program, once they have completed the professional content portions of the PSM in Biotechnology track. The MBA is offered to full-time students as a one year program with the foundation core (required for the PSM track), followed by 8 courses offered after completion of the MS Biotechnology degree. Most MBA courses will be offered in evenings (5-9 PM). Graduate students will be encouraged

to take MBA courses to increase their job opportunities in the industry and compete for both scientific and non-technical jobs.

The MBA program will begin with the Foundation courses (12 credit hours). They must be completed prior to starting the MBA Professional Core courses. The intellectual merit of these degree programs is in rigorous training offered to students in interdisciplinary scientific areas and in finance/ business administration. If students wish to earn an MBA degree after completion of the PSM in Biotechnology, then they will need to complete the following courses:

***MBA COURSES**

FALL 2 (12 hours)

MAN 6245 Organizational Behavior & Development (3 hrs)
ECO 6416 Applied Business Research Tools (3 hrs)
ECO 6115 Economic Analysis of the Firm (3 hrs)
[1]ACG 6425 Managerial Accounting Analysis (3 hrs)

SPRING 2 (12 hours)

[1]BUL 6444 Law and Ethics (3 hrs)
MAR 6816 Strategic Marketing Management (3 hrs)
FIN 6406 Strategic Financial Management (3 hrs)
MAN 6721 Applied Strategy and Business Policy (3 hrs)

[1] *Students planning to sit for the CPA exam must substitute approved CPA courses for ACG 6425 and BUL 6444.*
* Nine required electives will be replaced by Biotechnology elective courses. Six required internship credits will be transferred from the MS Biotechnology program.

University of Central Florida

Graduate Equipment Fee Request Form

Forward to your college office

This form is to be used for requests to add, change, or delete equipment fee requests for a program. All requests for the next catalog must be submitted by October 30 for the **November** agenda deadline of the Graduate Council Committee (Dean Patricia Bishop).

Request routing: 1) Department Chair to College Dean's Office; 2) Dean's Office; 3) Graduate Council Curriculum Committee; 4) Provost's office; 5) University Board of Trustees — information only.

Under the rules of the Board of Trustees for the University of Central Florida, equipment fees may be assessed for the use and replacement of equipment. Fees take effect in the fall semester of each year. Departments must maintain detailed accounting of all expenditures and report them to the Dean of the Graduate College on July 1 of each year.

Use one form for each program request:

Date Submitted: January 25, 2010 **College:** Medicine

Department: Medical Education **Submitted by:** Scott Sumner, Associate Dean for Administration & Finance

Degree program: Medical Doctor Program

Equipment Fees:

Fall graduate student enrollment: 101 (beginning August, 2010) **Full-time** 101 **Part-time** 0

Fee amount per semester: $601.00 per year for 4 years ($2,404 total over 4 years) **Full-time** $60.701 per year **Part-time** 0

Provide Justification for the Request:

Please see attached justification.

Provide detailed cost information about the expenses for which the fee is to be assessed.

Equipment	Cost	Lifetime
Dell Latitude E-6400 laptop	$418.00	4 years
iPod touch, 32GB memory	$140.00	2 years
(2) Konica Minolta BizHub multi-function print stations	$43.00	leased
Total of Costs:	$601.00	

Equipment replacement/upgrade cost/year: N/A

Maintenance Plans	Cost	Lifetime
Laptop and mobile device maintenance will be provided by College of Medicine staff.	$0	N/A
Each laptop comes with 4-year hardware support services.		
Charges for laptop repairs due to damage will be billed directly to students.		
Total of Costs:	$0	n/a

Maintenance plans and maintenance cost/year: N/A

Total cost for equipment replacement, upgrade, maintenance, and maintenance contracts per year: N/A

Any special conditions or exemptions must be identified:

Payment Details

Account Number to Deposit Fees: 25800802

Item Type: TBD

Contact Person: Steve Omli

Phone Number: 823-5525

Approval Signatures

Department Chair _____ Date 1-26-10

College Academic Standards _____ Date _____

College Dean _____ Date 1.26.10

Graduate Council _____ Date _____

Academic Affairs _____ Date _____

University of Central Florida

Office of the Dean
College of Medicine

MEMORANDUM

DATE: January 25, 2010

TO: UCF Faculty Senate Graduate Council
c/o Patricia Bishop, Ph.D.

FROM: Deborah German, M.D.
Founding Dean

Scott Sumner, M.B.A.
Associate Dean for Administration & Finance

RE: M.D. Program Equipment Fee Justification

The College of Medicine requests an equipment fee of $601.00 per student per year be implemented to meet the specific needs of the M.D. Program curriculum. The equipment fee will provide each student with a Dell E-6400 laptop, a mobile device similar to an iPod Touch, and dedicated access to and use of two (2) multi-function printers. The M.D. Program curriculum does not have semesters per se. The equipment fees are determined for the four-year program ($2,382) and students are charge 25% of the total ($596.00) for each of the four years. This approach to providing technology to medical students is used at both Florida International University and Florida State University.

Medical students need the ability to access various types of specialized medical education resources and applications remotely from wherever they are, including clinical rotations within the community and at affiliated hospitals. Course materials and learning objects are provided through our learning management system that is accessible via the Web. Common medical education software must be provided to each student to support their curriculum in a centrally managed environment. The laptops are required for each student since the college delivers secure computer-based exams without using a testing lab and formative computer-based quizzes are completed over weekends.

Mobile devices are necessary for student clerkship rotations to support the reporting of patient encounters and to provide ease of access to library and other electronic information resources when they are at a variety of affiliated clinical sites (LCME accreditation standards require documentation of various procedures and patient encounters performed by each student). The college will also incorporate virtual Electronic Health Record (EHR) technology into its clinical skills and simulation program. This will require the students to use both laptop and mobile device technologies to access and report standardized patient information into the EHR system as part of their learning process. Since mobile technology changes very rapidly, students will be provided two (2) mobile devices; one in the first year and one in the third year.

Two multi-function printers will be provided for the exclusive use of the students; one located in the student's lounge and one located in the student's problem-based learning labs.

College of Medicine
Equipment Fee Calculation

4-Year MD Program Fee	**Per Student**
Dell E-6400 laptop	$1,671.30
Mobile Devices (2)	$562.12
Printer Services	$170.29
4-Year Program Total	$2,403.71

Annual Fee	**Per Student**
Dell E-6400 laptop	$417.83
Mobiles Devices (2)	$140.53
Printer Services	$42.57
	$600.93

College of Medicine
Printer Services Cost Analysis

Printer Services Cost Analysis	**1 copier**	**2 copiers**
Lease (includes Toner and Maintenance)	121.24	242.48
Property Tax	7.35	14.70
Insurance	0.99	1.98
Per-Click Charges	66.00	66.00
Page Scope	16.58	33.17
Total Monthly Expense	212.16	358.33
Total Annual Expense	2,545.97	4,299.93
Total 4-Year Program Expense	10,183.86	17,199.72
Number of Students		101
Monthly Cost per Student		3.55
Annual Cost per Student		42.57
Class Cost per Student		170.29

DELL™

Close

Dell recommends Windows Vista® Business.

View/Print Cart

Print Page

University of Central Florida Campus Computing Center

E-quote Number: 1008182815854

Saved By:	Andrew D Butcher	**Phone Number:**	(407) 882-1235
	abutcher@mail.ucf.edu	**Purchasing Agent:**	
Saved By:	Friday, March 27, 2009	**Notes/Comments:**	Dell Standard Carry Case
Expires On:	Monday, May 11, 2009	**Additional Comments:**	

Description

Latitude E6400 with Intel vPro Advanced Systems Management

Date & Time: March 27,2009 8:40 PM CST

SYSTEM COMPONENTS

Latitude E6400 with Intel vPro Advanced Systems Management
Intel® Core™ 2 Duo P8400 (2.26GHz, 3M L2 Cache, 1066MHz FSB), Genuine Windows Vista® Home Basic SP1, With media

Qty 1

Unit Price $1,924.44

Catalog Number: **25 E1514_VP**

Module	Description	Show Details
Latitude E6400	Intel® Core™ 2 Duo P8400 (2.26GHz, 3M L2 Cache, 1066MHz FSB)	
Operating Systems	Genuine Windows Vista® Home Basic SP1, With media	
Memory	4.0GB, DDR2-800 SDRAM, 2 DIMMS	
Internal Keyboard	Internal English Keyboard	
Graphics and Expansion Slot	NVIDIA Quadro NVS 160M With Express Card	
Primary Storage	250GB Hard Drive, 7200RPM with Free Fall Sensor	
Fingerprint Reader Options	No Fingerprint Reader	
LCDs	14.1" Widescreen WXGA (1280x800) LED Display - Brush Metal Black	
Bluetooth	Dell Wireless® 370 Bluetooth Module	
Modem	No Modem	
AC Adapter	90W A/C Adapter (3-pin)	
Primary Optical Device	8X DVD+/-RW w/Roxio and Cyberlink PowerDVD™, NO Media	
Camera/Microphone	Integrated Webcam with digital microphone	
Wireless LAN (802.11)	Intel® WiFi Link 5100 802.11a/g/n Draft Mini Card	
Systems Management	Intel vPro™ Technology's advanced management features	

System Documentation	No System Documentation
Primary Battery	9 Cell Battery
Carrying Cases	Deluxe Nylon Case (2 pocket, up to 15.4)
Hardware Support Services	4 Year ProSupport for IT and 4 Year NBD Onsite Service
Extended Battery Service	2 Years Extended Battery Service for Years 2 and 3 of System Life
Installation Services	No Onsite System Setup
Accidental Damage Service	4 Year CompleteCare Accidental Damage Protection
Energy Star & EPEAT	Energy Star 4.0 Enabled / EPEAT GOLD
LCDs	Black WideScreen LED WXGA LCD w/Integrated Camera and Microphone
Keep Your Hard Drive	Keep Your Hard Drive, 4 Years
Accessories	New Dell USB Optical Mouse with Scroll, All Black Design
Processor Branding	Intel Centrino 2 vPro Core Duo Processor
OS Labels	Vista Basic Label

TOTAL: $1,924.44

	Total Price
Sub-total	$1,924.44 before discount
Shipping & Handling	$0.00
Tax	--
Total Price[1]	--

$1,671.30 after discount

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sn CM55

Apple Inc. Education Price Quote

Customer:	Heidi Eri UNIVERSITY OF CENTRAL FLORIDA 4078235603 phone email	Apple Inc.	John Allen MS , 4078763448 ph 407/217-5140 fax email

Apple Quote: W65366883

Quote Date: 25-OCT-2009

Quote Valid Until: 20-NOV-2009

Quote Comments:

	Part Number	Details & Comments	Qty	Unit List Price	Unit Disc. Price	Extended Disc. Price
1	S3131LL/A	AppleCare Protection Plan for MacBook Pro (w/o Display) - Auto Enroll	1	239.00	224.66	224.66
2	MC118LL/A	MacBook Pro, 15 inch, 2.53GHz	1	1,599.00	1,503.06	1,503.06
3	MC008LL/A	iPod touch, 32GB	20	299.00	281.06	5,621.20
4	TV403VC/A	BRETFORD POWERSYNC CASE FOR IP	1	1,199.95	1,127.95	1,127.95
				Edu List Price Total		9,017.95
				Total Discount		541.08
				Extended Disc. Sub Total		8,476.87
				eWaste Fee / Recycling Fee		0.00
				Extended Disc. Total Price*		8,476.87

In most cases Extended discounted Total price does not include Sales Tax
If applicable, eWaste/Recycling Fees are included. Standard shipping is complimentary

Completing your order is easy:

- Reference Apple Quote number W65366883 on your Purchase Order
- Fax a copy of this quote along with your Purchase Order to 407/217-5140

Apple Inc.

MS
,

THIS IS A QUOTE FOR THE SALE OF PRODUCTS OR SERVICES. YOUR USE OF THIS QUOTE IS SUBJECT TO THE FOLLOWING PROVISIONS.

A. ANY ORDER THAT YOU PLACE IN RESPONSE TO THIS QUOTE WILL BE GOVERNED BY (1) ANY CONTRACT IN EFFECT BETWEEN APPLE INC. ("APPLE") AND YOU AT THE TIME YOU PLACE THE ORDER OR (2), IF YOU DO NOT HAVE A CONTRACT IN EFFECT WITH APPLE CLICK HERE TO APPLY FOR A CONTRACT.
B. IF YOU USE YOUR FORM OF PURCHASE ORDER TO PLACE AN ORDER IN RESPONSE TO THIS QUOTE, APPLE REJECTS ANY TERMS SET OUT ON THE PURCHASE ORDER THAT ARE INCONSISTENT WITH OR IN ADDITION TO THE TERMS OF YOUR AGREEMENT WITH APPLE.
C. YOUR ORDER MUST REFER SPECIFICALLY TO THIS QUOTE AND IS SUBJECT TO APPLE'S ACCEPTANCE.
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SES # 214756

DELL

QUOTATION

QUOTE #: 485066935
Customer #: 96645299
Contract #: 74300
CustomerAgreement #: #01-01
Quote Date: 4/21/09
Customer Name: UCF COMPUTER STORE

Date: 4/21/09 11:07:53 AM

TOTAL QUOTE AMOUNT:	$1,671.30		
Product Subtotal:	$1,671.30		
Tax:	$0.00		
Shipping & Handling:	$0.00		
Shipping Method:	Ground	Total Number of System Groups:	1

GROUP: 1	QUANTITY: 1	SYSTEM PRICE: $1,637.30	GROUP TOTAL: $1,637.30
Base Unit:		Latitude E6400, Intel Core 2 Duo P8600, 2.40GHz, 1066MHz 3M L2 Cache, Dual Core (223-9335)	
Memory:		4.0GB, DDR2-800 SDRAM, 2 DIMM for Latitude (311-8827)	
Keyboard:		Internal English Keyboard for Latitude E (330-0836)	
Keyboard:		Documentation (English) Latitude E-Family/Mobile Precision (330-1652)	
Video Card:		NVIDIA Quadro NVS 160M, 256MB With Express Card, Latitude E6400 (320-6775)	
Hard Drive:		250GB Hard Drive 9.5MM 7200RPM FFS for Latitude EX600 (341-6988)	
Hard Drive Controller:		No Fingerprint Reader for Latitude E6X00 (311-8819)	
Floppy Disk Drive:		14.1 Inch Widescreen WXGA (1280x800) LED Display - BrushMetal Black, Latitude E6400 (320-7131)	
Operating System:		Windows XP PRO SP3 with Windows Vista Business LicenseEnglish,Dell Latitude (420-9610)	
NIC:		Dell Wireless 370 Bluetooth 2.1 Minicard for Latitude E/Mobile Precision (430-3090)	
Modem:		No Modem for Latitude E-Family (313-6507)	
TBU:		90W 3-Pin, AC Adapter for Latitude E-Family (330-0876)	
TBU:		US - 3-FT, 3-Pin Flat E-FamilyPower Cord for Latitude E-Family (330-0879)	
CD-ROM or DVD-ROM Drive:		8X DVD+/-RW for Latitude E-Family (313-6513)	
CD-ROM or DVD-ROM Drive:		Roxio Creator Dell Edition,9.0no Media,Dell Latitude/Mobile Precision (420-8009)	
CD-ROM or DVD-ROM Drive:		Cyberlink Power DVD 8.1,No Media,Dell Latitude/Mobile Precision (420-9186)	
Sound Card:		Integrated VGA webcam with single digital microphone Latitude E6400/MPWS M2400 (313-6710)	
Processor Cable:		Intel WiFi Link 5300 (802.11 a/g/n 3X3) 1/2 MiniCard for VPRO Latitude E/Mobile Precision (430-3362)	
Documentation Diskette:		Intel vPro Technology Advanced Management Features for Latitude and Mobile Precision (330-0886)	
Bundled Software:		Intel Centrino Core Duo Processor (310-8314)	
Factory Installed Software:		No Resource DVD for Dell Optiplex, Latitude, Precision (313-3673)	
Feature		9-Cell/85-WHr Battery for Latitude E/Mobile Precision (312-0730)	
Service:		Dell Hardware Limited Warranty Plus Onsite Service Extended Year(s) (991-2918)	
Service:		Thank you choosing Dell ProSupport. For tech support, visit http://support.dell.com/ProSupport or call 1-866-516-31 (989-3449)	
Service:		ProSupport for IT: 7x24 Technical Support for certified IT Staff, 3 Year Extended (981-1523)	
Service:		ProSupport for IT: 7x24 Technical Support for certified IT Staff, Initial (984-3990)	
		ProSupport for IT: Next Business Day Parts and Labor Onsite Response 3 Year Extended (986-	

Service:	1953)
Service:	ProSupport for IT: Next Business Day Parts and Labor Onsite Response Initial Year (989-4460)
Service:	Dell Hardware Limited Warranty Plus Onsite Service Initial Year (991-2917)
Extended Service:	Extended Battery Service for Years 2 and 3 of System Life (988-5542)
Installation:	Standard On-Site Installation Declined (900-9987)
Support:	CompleteCare Accidental Damage Protection, 4 Year (986-2323)
Support:	Info, Complete Care (988-7689)
Misc:	Energy Star 4.0 Enabled, EPEATGOLD, Latitude E6400 (467-5680)
Misc:	14.1 inch Wide WXGA LED Screen Antiglare Screen for Latitude E6400 (320-7101)
Misc:	Black Finish for WXGA Backlight LCD, LED Screen Latitude E6400 (313-6887)
Misc:	Dell Webcam Central Software for Dell Latitude/Mobile Precision (420-8666)
Misc:	Integrated webcam with single digital microphone for WXGA LED, Latitude E6400 (313-7502)
Misc:	Vista Premium Downgrade Relationship Notebook (310-9160)
	Keep Your Hard Drive, 4 Year (981-5693)
	CFI,Information, Validator,Order Ready,Absolute,Factory Install (364-1191)
	CFI,Information,Boot Order, Hard drive,Floppy drive, Compact Diskette,Factory Install (364-7655)
	CFI,DELL,LPTP TRK/RCOVR/DD SW,4 Year (365-0541)
	CFI,Integration,Fee, Services,Absoulte,Load,Factory Install (365-1245)
	CFI,Information,BIOS, Computrace,ACTIVE,Factory Install (372-1509)
	Thank you for choosing Dell Laptop Tracking and Recovery. For support visit http://www.dell.com/trackingandrecov (374-6717)

SOFTWARE & ACCESSORIES

Product	Quantity	Unit Price	Total
Meridian Backpack - Fits Laptops of Screen Size Up to 15.6 Black (A1734723)	1	$34.00	$34.00
Number of S & A Items: 1	S&A Total Amount: $34.00		

SALES REP:	COLLIN DENNIS	PHONE:	1-800-274-7799
Email Address:	Collin_Dennis@Dell.com	Phone Ext:	72-35280

For your convenience, your sales representative, quote number and customer number have been included to provide you with faster service when you are ready to place your order. Orders may be faxed to the attention of your sales representative to 1-866-607-6911. You may also place your order online at http://www.dell.com/qto.

This quote is subject to the terms of the agreement signed by you and Dell, or absent such agreement, to Dell's Terms of Sale.

Prices and tax rates are valid in the U.S. only and are subject to change. Taxes reflected on quotes are estimates and may vary from tax shown at invoicing based on the actual ship to address.

Sales/use tax is a destination charge, i.e. based on the "ship to" address on your purchase order. Please indicate your taxability status on your PO. If exempt, please fax exemption certificate to Dell Tax Department at 1-888-863-8778, referencing your customer number. If you have any questions regarding tax please call 800-433-9019 or email Tax_Department@dell.com.

All product and pricing information is based on latest information available. Subject to change

UCF COMPUTER STORE

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Proposed Modifications to the M.Ed. In Educational Leadership

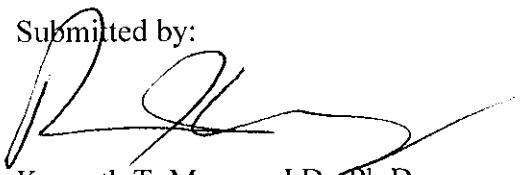
Rationale:

The Educational Leadership faculty wish to prepare our certification students the very best way possible. As a result we find it necessary to revise our course requirements to better correlate with the Florida Educational Leadership Examination [FELE] subject requisites.

The recent revision of the FELE obviates the need for the M.Ed. students in Educational Leadership to experience the curriculum courses, EDG 6223 and EDG 6253, which heretofore have been approved as electives on the Educational Leadership M.Ed. Program of study. As a result of this change in emphasis at the State level, the Educational Leadership faculty wish to remove the curriculum courses from the approved electives. In addition, the faculty wish to move the two other listed courses, EDA 6502 and EDA 6300, to the Specialization area of the Program of Study. The Program of Study then would allow no electives. This proposed revision requires no additional faculty or resources.

Because the M.Ed. in Educational Leadership is a certification degree which requires successful completion of the Florida Educational Leadership Examination to graduate, it is the judgement of the Educational Leadership faculty that such change is in the best interests of our M.Ed. students.

Submitted by:



Kenneth T. Murray, J.D., Ph.D.
Coordinator, Educational Leadership

EDUCATIONAL LEADERSHIP
Master of Education (M. Ed.)

Two master's degree programs are offered in Educational Leadership: the Master of Education Degree (M. Ed.) and the Master of Arts Degree (M.A.). The purpose of the M.Ed. in Educational Leadership is to prepare individuals for leadership positions and administrative careers in education. M.A. options are designed to meet the needs of students who wish to work in education-related agency or higher education settings. The M.A. options do not fulfill state certification requirements.

The M.Ed. in Educational Leadership is a 39-semester-hour program of study applicable toward Florida Educational Leadership Certification that is designed to provide the theoretical and conceptual knowledge base required for principalship and for Florida Level 1 Educational Leadership Certification. Courses required in the program address the eight competency domains specified by the Florida Department of Education and included in the Florida Educational Leadership Examination (FELE). Educational Leadership Certification is subject to Florida Department of Education approval. An M.Ed. in Educational Leadership or its equivalent, three years of teaching experience, and successful completion of the Florida Educational Leadership Examination are required by the state of Florida for certification in Educational Leadership.

Degree Requirements

- Complete the prescribed program, a minimum of 39 semester hours beyond the Bachelor's Degree including the selected program requirements within a period of seven years (transfer credit may not exceed 9 semester hours).
- Have an overall 3.0 GPA on all graduate work attempted (6 maximum hours of C).
- Pass a comprehensive examination near the conclusion of the planned program of study.

Application Procedures

If you are interested in applying to the Master of Education program, visit www.graduate.ucf.edu and select "Apply Online". You can direct admission questions to the College of Education, Graduate Programs in ED 110, or phone: 407-823-3723, or the Department of Educational Research, Technology & Leadership in ED 222 or phone 407-823-1474.

1. Graduate Application
2. Official transcripts of all previous academic work
3. Official GRE score

Application Deadlines

Admissions to the M.Ed. Program occur three times each year. Complete applications must be received by:

- January 15 Fall Priority Admission
- July 15 for Fall Admission
- December 1 for Spring Admission
- April 15 for Summer Admission

Minimal Admission Requirements

- Bachelor's Degree
- GPA of 3.0 for the last 60 attempted semester hours of undergraduate study and a minimum score of at least 840 on the verbal-quantitative sections of the GRE **OR**
- A GPA of less than 3.0 combined with a GRE of 1000 or above
- Program Area recommendation

Provisional Admission

Students who fail to meet university admissions standards have the opportunity to apply for admission via the provisional category. To be considered for provisional status, students must file an application for provisional status. Completed applications for provisional admission must be accompanied by a professional resume, a statement of professional goals and three letters of recommendation from individuals who can speak to the applicant's prior professional/ academic accomplishment or potential for success as a graduate student/administrator. Applications for provisional admission are considered once each term for admission the following term.

Program of Study
For the M. Ed. Degree
In Educational Leadership

Core (9 semester hours)

EDF 6432 Measurement and Eval in Education (3)
EDF 6481 Fundamentals of Grad Res in Educ (3)

Select One:
EDF 6155 Lifespan Human Development (3)
EDF 6517 Perspectives on Education (3)
EDF 6608 Social Factors in Amer Educ (3)
EDF 6886 Multicultural Education (3)
EDF 6259 Learning Theories Appl Class Inst (3)

Specialization (~~24~~ 30 semester hours)

*EDA 6061 Org/Admin of Schools (3)
*EDA 6232 Legal Aspects of School Operations (3)
*EDA 6240 Educ Financial Affairs (3)
*EDA 6260 Educ Systems Planning/Mgmnt (3)
*EDA 6931 Contemp Issues in Educ Lead (3)
*EDS 6123 Educ Supervisory Practices I (3)
*EDS 6130 Educ Supervisory Practices II (3)
*EDA 6946 Administrative Internship (3)

Comment [j1]: Specialization area would be 30 hours instead of 24 hours.

~~Electives (6 semester hours)~~

EDA 6502 Org/Adm of Instructional Programs (3)
EDA 6300 Community School Administration (3)
~~EDG 6223 Curriculum Theory and Org (3)~~
~~EDG 6253 Curriculum Inquiry (3)~~

Comment [j2]: Deleting the electives area and moving 6 hours to the specialization area.

Total Minimum Hours Required (39)

*Florida Level I Certification requirements

The University of Central Florida Graduate Catalog is the university's official record of graduate policies, admission requirements, and program requirements. Please refer to the current online Graduate Catalog; http://www.ucf.edu/catalog/ for up to date information.

Program Faculty

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Faculty members in Educational Leadership bring a wide range of experience in many aspects of education and a broad base of research interests. As professionals, they are dedicated to the improvement of educational practices through a better understanding of learning processes and the structures which support these processes.

The University, along with this College and our Department strive to be known for its attitudes, policies and practices in the area of domestic diversity. We encourage candidates applying to our programs to participate in service learning opportunities and field experiences in order to increase their knowledge and commitment to diversity sensitivity.

University of Central Florida

UCF is one of the 11 state universities in Florida, providing 97 Baccalaureate Programs, 95 Master's Programs, 3 Specialist, 29 Doctoral Programs and 1 Professional Program. Situated in Orlando, one of the most rapidly developing areas of the nation, the University has over 50,000 students currently enrolled and over 1770 full and part-time faculty members. Academic programs are offered in Orlando and 12 UCF Regional Campuses strategically located throughout central Florida.

College of Education

In its short history, the College of Education has established a reputation for preparing outstanding graduates. All programs in the College of Education are accredited by NCATE (The National Council for the Accreditation of Teacher Education). Educational Leadership Level I programs leading to certification are fully approved by the Florida Department of Education.

For more information, contact:

Educational Leadership Program Coordinator
P.O. Box 161250
Orlando, FL 32816-1250
407-823-1474
www.education.ucf.edu/edleadership

College of Education Graduate Studies
University of Central Florida
Orlando, FL 32816-1250
407-823-3723
http://education.ucf.edu/

or

Graduate Studies Admissions
University of Central Florida
P. O. Box 160112
Orlando, FL 32816-0112
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University of Central Florida

COLLEGE OF EDUCATION

Master of Education in Educational Leadership

December 24, 2009

Dear CED Graduate Curriculum Committee,

The Early Childhood Development and Education Graduate faculty are proposing three changes in the 2010 catalog.

1) We would like to switch EEC 6216 Communicative Arts in Early Childhood Education to an elective course, and bring EEC 6406 Guiding and Facilitating Social Competence to a required course. We have found that the students are in need of learning social and emotional development in early child development in order to take additional courses. So, we moved the social and emotional course to "required". In order to remain at 18 hours, we moved the communicative arts to an elective course.
2) We have been meeting and collaborating with Social Work faculty. Dr. Ana Leon has been approved to teach a new course this year, SOW 6726 Social Work Practice with Children from Birth to Age Five and their Families. We believe the course will enrich the graduate experience of students who want to work with infants. The course emphasizes attachment theory and its influence on subsequent development and behavior. In addition, it discusses the integration of all community service agencies who work with families with young children. This is excellent knowledge base for our students who go to work in home visitation programs, parent education programs, and early child care.
3) We would like to add another nonthesis option – 6 approved elective credits with written comprehensive examinations. This is in direct response from students who consider the MS a terminal degree and who want to work immediately with children and families, rather than pursue a doctoral degree. They have asked for more course work and field experience. These students would get additional time in courses and experiences as well as take written comprehensive examinations.

Please let me know if you have any questions. I appreciate you considering these changes for the Early Childhood Development and Education degree.

Sincerely,

Anne Culp
Graduate Program Coordinator, ECDE

Early Childhood Development and Education MS

Program Disciplines

This program belongs to the following disciplines:

- Education

College : Education
Degree : MS
Department : Child, Family and Community Sciences
Option : Thesis, Nonthesis
Program Websites : http://education.ucf.edu/ece/

PROGRAM DESCRIPTION

The Master of Science program in Early Childhood Development and Education is designed to meet the needs of teachers through the delivery of relevant, rigorous course work and related academic experiences.

CURRICULUM

The Early Childhood Development and Education MS program requires a minimum of 36 credit hours beyond the bachelor's degree, including 6 credit hours of core courses, 18 credit hours of specialization courses, 6 credit hours of electives, and 6 credit hours of a capstone experience in the form of a thesis or nonthesis option.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Students should initially and periodically meet with an academic adviser to plan their program of electives in relation to their desired career goals, develop a program of study and timeline for their course work completion, and to plan for the capstone culminating experience.

The MS does not lead to initial teacher preparation through the state approved program route. Students interested in certification may contact the Florida Bureau of Teacher Certification Florida Department of Education, directly at www.fldoe.org/edcert/.

Required Courses—24 Credit Hours

Core—6 Credit Hours

- EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Specialization—18 Credit Hours

- EEC 5205 Programs and Trends in Early Childhood Education (3 credit hours)
- ~~EEC 6216 Communicative Arts in Early Childhood Education (3 credit hours)~~

- EEC 6269 Play Development, Intervention, and Assessment (3 credit hours)
- EEC 6405 Home-School-Community Interaction in Early Childhood Education (3 credit hours)
- ~~EEC 6606 Global Issues in Early Childhood (3 credit hours)~~ Course revised to:
- EEC 6606 International Perspectives on Early Child Development (3 credit hours)
- EEX 6222 Observation and Assessment of Young Children (3 credit hours)
- EEC 6406 Guiding and Facilitating Social Competence (3 credit hours)
-

Elective Courses—6 Credit Hours

- EEX 6017 Typical and Atypical Child Development (3 credit hours) (Required if no undergraduate course in child development)
- ~~EEC 6406 Guiding and Facilitating Social Competence (3 credit hours)~~
- EDP 6056 Advanced Educational Psychology (3 credit hours)
- EEX 5702 Planning Curriculum for Pre-Kindergarten Children with Disabilities (3 credit hours)
- EEX 5750 Communication with Parents and Agencies (3 credit hours)
- MHS 6403 Techniques of Play Therapy and Expressive Arts (3 credit hours)
- MHS 6421 Foundations of Play Therapy and Play Process (3 credit hours)
- SPS 6125 Infant Development Assessment (3 credit hours)
- Other courses of interest with consent of faculty
- EEC 6216 Communicative Arts in Early Childhood Education (3 credit hours)
- SOW 6726 Social Work Practice with Children from Birth to age Five and their Families

Thesis Option —6 Credit Hours

- EEC 6908 Thesis (6 credit hours)

Nonthesis Option—6 Credit Hours

- EEC 6909 Research Report (6 credit hours)
- Approved elective credits with written comprehensive examinations (6 credit hours)

INDEPENDENT LEARNING

A research project or thesis is required as the culminating experience for the program.

Application Requirements

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline(s).

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Résumé.
- Essay detailing career goals OR a graded undergraduate/post graduate essay assignment (within 2 years).
- An interview with and favorable recommendation by Early Childhood Graduate faculty is required for admission.

GRE scores will be rated as part of a comprehensive rubric evaluation of the candidates' overall graduate level competencies. Admission materials will be scored on a rubric (TBA) to quantify decision criteria.

Students who do not meet published admission requirements may be admitted provisionally and will be interviewed by a faculty program committee whose recommendations will be forwarded to the master's admission and retention committee in accordance with College of Education code for final admission action. Other admission factors that may be used in selecting students for provisional admission to the program are previous teaching experience or work (i.e., social service agencies) with pre-kindergarten or primary age children and their families.

Application Deadlines

Early Childhood Development and Education MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

FINANCIALS

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see Student Finances, which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The Financial Information section of the Graduate Catalog is another key resource.

Fellowships

Fellowships are awarded based on academic merit to highly qualified students. They are paid to students through the Office of Student Financial Assistance, based on instructions provided by the College of Graduate Studies. Fellowships are given to support a student's graduate study and do not have a work obligation. For more information, see Fellowships, which includes descriptions of UCF fellowships and what you should do to be considered for a fellowship.

Proposal:
Restructuring of Certain Aspects of the Physics Ph.D. Program to Accommodate Recent Changes in the Student Pool

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Graduate proposal as voted on by Physics faculty	3
Proposed Physics Ph.D. Graduate Catalog Description (with edits)	7
Proposed Physics Ph.D. Graduate Catalog Description (without edits)	17

Rationale

The following document outlines a new vision of our PhD program in Physics. The Planetary Science track of the Physics PhD program is not affected by the changes suggested here.
Two main areas of change are addressed in the following.

A) Core course modifications:

The effectiveness of core courses offered until now was reviewed by the faculty. Additionally, faculty looked at core courses that are offered in Physics PhD programs across the country. When we compared our core courses with courses offered at peer institutions the courses PHZ 5156 Computational Physics and PHY 5846C Methods of Experimental Physics were typically not part of the core, but part of the elective program. No institution had a research seminar in the core for pre-candidacy students. In the candidacy exams and in classes we identified the need for a broader education in the basic principles of Physics. We identified PHY 6246 Classical Mechanics as a course that is typically offered at peer institutions in the PhD core, and which was recently offered regularly as an elective in our program.

As part of the assessment process of the Physics PhD program the graduating students identified in their exit interview courses that were useful and those that did not help them in their curriculum. A common complaint was the limited effectiveness of the Physics Research Seminar PHY 6939, but PHZ 5156 and PHY 5846C were also often mentioned as of limited use for many students. Students who focus on experimental Physics often have hands-on experience during directed research hours and PHY 5846C does not advance their skills. Students in theoretical Physics find PHZ 5156 to be unnecessary. Therefore, we want to move these courses into the electives.

B) Changes to placement exam and candidacy exam:

We had extended discussions among faculty to modify the placement exam and the candidacy exam. A committee collected data and opinions on the effectiveness of student assessment at the different exams. The placement exam so far tested undergraduate knowledge only through a standardized test. This knowledge is the basis of a success in the Graduate program, however, it does not identify possible problems that students may face especially in their core courses. The placement exam is now intended to identify courses where individual students may have difficulties. This change is necessary to better advise students on their program of study. Some students may be deferred to remedial courses before taking core courses in the first year.

The candidacy exam consists of a written and an oral part. The content of both exams was evaluated in faculty meetings and in a one-day retreat where policies and procedures were discussed. The faculty decided to keep the written part of the candidacy exam unchanged. However, changes to the oral part of the candidacy exam were found to be necessary:
The current oral exam part addresses the same topics (core course content) as the written part, and it does not give any indication on student performance in dissertation research. Therefore, the Physics department attempts to combine the dissertation proposal with the oral part of the candidacy exam. In the new curriculum students are required to attend seminars regularly and they have to give an annual presentation to assess their progress in research and in presentation skills after they pass the written part of the candidacy exam.

This version of the Graduate Proposal is the result of discussions and a subsequent vote by the Faculty on April 6, 2009.
Sections 3, 5, and 6 were approved for immediate implementation (2009-2010 catalog). A decision on Sections 1, 2, and 4 was deferred to a future meeting. Specific regulations as listed below will be added into the graduate handbook for Physics PhD students.

The rules and recommendations below do not apply to the Planetary Science track of the Physics Ph.D. program.

(Compiled by E. Mucciolo on April 6, 2009. Modified on April 20, 2009, after consultation with COS.)

1) PLACEMENT EXAM:

All incoming Ph.D. students in the Physics will be required to take a placement exam covering topics in Quantum Mechanics, Classical Mechanics, Electromagnetism, and Thermodynamics at the undergraduate level. Students who perform poorly in the placement exam will be advised to take selected courses *before* enrolling in the Ph.D. program core courses. These courses will have the dual 5xxx/4xxx prefix and will count toward the students electives if the 5xxx level course is enrolled and completed. These courses will count toward the student's electives.

REMARKS:

(a) A committee will be formed to prepare the placement exam. The exam will emphasize fundamental concepts and quick (order-of-magnitude) responses, but some math will be tested as well, especially algebra, statistics, and differential equations. Questions from the Physics subject GRE could be used, as well as from the mid-term and final exams of upper level undergraduate courses offered at UCF. Grading must immediately follow the exam for a fast feedback. The exam should take place at least two weeks before classes begin.

(b) Students who are transferring credit of core courses into the program should be waived the placement exam as long as the transfer happens *before* the exam and the beginning of classes. (More about credit transfer in Sec. 2 and 3.3.ii below).

2) PRE-CANDIDACY STATUS AND DIRECTED RESEARCH

Pre-candidacy PhD students will not be allowed to take Directed Research in their first two semesters, unless:

(i) They are transfer students who have already completed most of the core courses elsewhere (approval by the Graduate Coordinator is necessary), or

(ii) They have a MS degree and are transferring credits to the program to cover core courses.

It is suggested that the number of credit hours of Directed Research during fall and spring terms be limited to 3. In the summer terms, pre-candidacy students are expected to take 6 credit hours of Directed Research to maintain full-time status.

3) CANDIDACY EXAM

A new organization of the candidacy exam is proposed:

3.1) The WRITTEN PART will cover topics of the core courses, as listed in Sec. 6 below. It must be taken immediately after the core requirements have been satisfied [but see item (ii) below for those students who have transferred here or come with a MS degree]. Due to the course periodicity being suggested (see below), this will typically occur at the end of the first spring term. Thus, the exam can take place in the beginning of the first summer, in which case students would have the rest of the summer term to do research (when they are most likely going to be supported by research assistantships).

For those students who are coming into the program in the fall term with the core courses completed, the exam will be offered in mid December.

The minimum passing grade is 50% and a maximum of two attempts will be allowed. The written exam will be offered twice a year. Students who fail the first attempt will be required to take the exam again in the next offering. Students who failed twice will be asked to leave the Ph.D. program and transfer to the MS program [see remark (b) below].

It is suggested that the Candidacy Exam Committee be formed by faculty members teaching the core courses at that particular academic year.

3.2) The ORAL PART will combine an examination of the student's command of physics *and* his/her dissertation proposal. It must be taken *no later than one year* after the written part has been satisfied. Thus, immediately after passing the written exam, the student must identify a research supervisor and a dissertation committee must be put in place with the approval of the Graduate Coordinator. In this new format, the dissertation committee automatically becomes responsible for carrying out the oral part of the candidacy exam of that student.

Only two attempts to the oral part will be allowed and must happen in consecutive terms. Students who failed twice will be asked to leave the Ph.D. program and transfer to the MS program (see remark (b) below). Students who pass the oral exam will gain post-candidacy status.

The format of the dissertation proposal and the rules for the presentation remain the same.

3.3) Students are expected to take electives during the time between the written and oral exams (note that Directed Research counts as an elective).

In addition, the following rules should be implemented:

(i) Ph.D. students can only take the written part of the candidacy exam *after* passing the core courses or transferring credits to cover these courses.

(ii) Transfer students and students who are admitted with a MS degree (and therefore have already taken most of the core courses) are expected to take the written part of the candidacy exam *within six months of arrival*, or as soon as the core requirement is satisfied.

(iii) The post-candidacy student must meet with the dissertation committee at least once a year, so that his/her progress can be evaluated and recommendations be made. In additional, all post-

candidacy students will have to present a seminar on his/her research at least once *before* the dissertation defense (the proposal presentation does not count).

REMARKS:

(a) Block transfer of credit hours into the program does not grant automatic exemption from core courses, unless these are included in the transfer.

(b) UCF rules now allow a student who fails the candidacy exam to stay in the Ph.D. program until completion of a M.S. degree. It is up to the program to decide how much time the student will have to satisfy the M.S. degree requirements.

4) SEMINAR ATTENDANCE

Seminar and colloquium participation is a non-credit program requirement, similar to the candidacy exam. Attendance in all seminars and colloquia sponsored by the Department will be checked. The percentage shown below will be required after considering the period during which the student has been registered in the program.

- Colloquia: minimum of 75%

AND

- Topical seminars (in the student's area of specialization): 50%.

Alternatively, participation in seminar topical courses offered by a faculty member for credit can be used toward the seminar/colloquium attendance requirement.

5) CORE COURSE OFFERING

The following core course periodicity should be implemented:

* Fall terms: Quantum Mechanics I (PHY 5606), Electrodynamics I (PHY 5346), Classical Mechanics (PHY 6246).

* Spring terms: Quantum Mechanics II (PHY 6624), Electrodynamics II (PHY 6347), Statistical Mechanics (PHY 5524).

For all core courses listed above there will be weekly recitations.

The following courses are also part of the core and at least one of them needs to be taken: Computational Physics (PHZ 5156), Methods of Experimental Physics (PHY 5846C), Advanced Astronomical Data Analysis (AST 5937).

6) ELECTIVE OFFERING

There is no suggested periodicity for the electives. They should be offered according to faculty availability and students' interest.

7) SUGGESTED PROGRAM OF STUDY FOR THE PHD PROGRAM (EXAMPLE)

Suggested program for a student (non-MS, non-transfer) starting in a fall term (accumulated credits shown in parenthesis).

* *Pre-candidacy Period*:

Fall - Year 1 (9)

- Quantum Mechanics I [3]
- Electrodynamics I [3]
- Classical Mechanics [3]

Spring - Year 1 (18)

- Quantum Mechanics II [3]
- Electrodynamics II [3]
- Statistical Mechanics [3]

Summer - Year 1 (24)

- Directed Research [6]
- Written part of the candidacy exam

Fall - Year 2 (33)

- Directed Research [3]
- Elective [3]
- Elective [3]

Spring - Year 2 (42)

- Directed Research [3]
- Elective [3]
- Elective [3]

Summer - Year 2 (48)

- Directed Research [6]
- Oral part of the candidacy exam (dissertation proposal presentation)

* *Post-candidacy Period*:

Fall - Years 3, 4, 5 (respectively: 51, 60, 69)

- Dissertation [3]

Spring - Years 3, 4, 5 (respectively: 54, 63, 72 => graduation)

- Dissertation [3]

Summer - Years 3, 4 (respectively: 57, 66)

- Dissertation [3]

Proposed Physics Ph.D. Graduate Catalog Description
(with edits)

College : Sciences Degree: PhD
Department : Physics Option: Dissertation
Program Websites : http://www.physics.ucf.edu/grad/gradinfo.shtml

PROGRAM DESCRIPTION

The Doctor of Philosophy degree in Physics ~~doctoral program~~ intends to provide a broad base in experimental and theoretical Physics. A series of core courses and a variety of elective courses offers a basis for attaining the knowledge necessary for a successful career. Students will obtain distinction in their field of study with~~offers~~ research opportunities in condensed matter physics, nanostructure devices, surface science, optical physics, complex systems, biophysics, atomic and molecular physics, and planetary/space science. The department is characterized by rapid growth and dynamic partnerships. This activity, fueled by the university's focus on industrial partnerships and research, strengthens the department and provides research and employment opportunities for our students.

The rules and recommendations below do not apply to the Planetary Science track of the Physics Ph.D. program.

CURRICULUM

The Physics PhD program requires a total of 72 credit hours for completion. A specific set of ~~eight~~ six required core courses (~~24~~ 18 hours), four~~ive~~ restriced electives (~~15~~ 12 hours), and a minimum of 15 hours of dissertation are part of those 72 hours. At least one of the electives must be a methods course selected from a list approved by the Physics Department (see below). The remaining 27 hours of unrestricted electives may consist of research, other electives, and/or dissertation. Courses must be selected so that at least one-half of the required 72 hours are taken at the 6000 level.

Seminar Attendance

Students in their 4th semester and beyond will be required to attend a major fraction of seminars and colloquia hosted by the Physics Department, as well as to make an annual presentation of their research work or independent study.

~~Electives are informally organized into specializations. A different mix of electives may be selected by the student in consultation with the student's adviser. The remaining 18 hours may consist of appropriate directed research and elective courses. In addition, each student is required to participate in the Physics Colloquium/Seminar program. At least 6 credit hours of elective course work must be taken outside of the department. Courses must be selected so that at least one-half of the required courses are taken at the 6000 level or higher. No more than 6 credit hours of independent study may be credited toward the Doctor of Philosophy degree.~~

Total Credit Hours Required:
72 Credit Hours Minimum beyond the Bachelor's Degree; **42** Credit Hours Minimum beyond the Master's Degree

Required Courses—18~~24~~ Credit Hours

All students are required to take the core courses. For all core courses there will be weekly recitations.

The suggested core course sequence for students starting in the Fall term is:

PHY 5606 Quantum Mechanics I (3 credit hours, Fall term)

PHY 5346 Electrodynamics I (3 credit hours, Fall term)

PHY 6246 Classical Mechanics (3 credit hours, Fall term)

PHY 6624 Quantum Mechanics II (3 credit hours, Spring term)

PHY 6347 Electrodynamics II (3 credit hours, Spring term)

PHY 5524 Statistical Physics (3 credit hours, Spring term)

Elective Courses—~~33~~ 12 Credit Hours

Elective and research courses are determined by the student's chosen specialization. At least ~~one~~ four courses (12 Credit hours) must be ~~a~~ formal courses (restricted electives), exclusive of ~~i~~Independent S~~s~~tudy and Directed Research. Of the four elective courses, one has to be an approved Methods Course for all specializations:

(PHY 5846C) Methods of Experimental Physics
(PHZ 5156) Computational Physics
(AST 5765) Advanced Astronomical Data Analysis
(PHY 5937) Nano-Electronics

General Physics Specialization

The General Physics Specialization emphasizes strong preparation in physics fundamentals. It is intended to prepare students for careers in theoretical physics teaching at the college level. A number of active research programs exist in the department to accommodate such students.

Recommended Courses

~~PHY 6246 Classical Mechanics (3 credit hours)~~
PHY 6667 Advanced Quantum Mechanics (3 credit hours)
PHY 5933 Selected Topics in Biophysics and Macromolecules (3 credit hours)
PHZ 5156 Computational Physics (3 credit hours)

PHY 5846C Methods of Experimental Physics (3 credit hours)
PHZ 5405 Introduction to Condensed Matter Physics (3 credit hours)
PHZ 6426 Condensed Matter Physics I (3 credit hours)
PHZ 6428 Condensed Matter Physics II (3 credit hours)
PHY 6667 Quantum Field Theory I (3 credit hours)
PHY 7669 Quantum Field Theory II (3 credit hours)
PHZ 5505 Plasma Physics (3 credit hours)
PHY 5650 Introduction to Quantum Computation (3 credit hours)
PHZ 5304 Nuclear and Particle Physics (3 credit hours)
PHZ 6234 Atomic Physics (3 credit hours)
PHY 6420 First Principles Computational Methods in Condensed Matter Physics and Materials Science (3 credit hours)
PHY 6938 Theory and Computation of Molecular Wave Functions (3 credit hours)
PHY 6938 Selected Topics in Scattering Theory (3 credit hours)
OSE 5312 Fundamentals of Optical Science (3 credit hours)
OSE 6347 Quantum Optics (3 credit hours)
~~PHY 7919 Directed Research~~
Other courses from Physics, Math, Optics, Materials Science, Engineering require approval by the students advisor and the graduate coordinator.

Condensed Matter Physics Specialization

The Condensed Matter Physics Specialization is intended to prepare students for careers in materials physics, nanoscale science and technology, semiconductors, and soft condensed matter physics. It emphasizes strong experimental preparation with hands-on courses in advanced materials characterization and processing instrumentation. Related research programs at UCF include magnetic nanostructures, soft

condensed matter, electronic and optoelectronic devices, and nanoscale characterization.

Recommended Courses

- PHZ 5405 Introduction to Condensed Matter Physics (3 credit hours)
- PHZ 6426 Condensed Matter Physics I (3 credit hours)
- PHZ 6428 Condensed Matter Physics II (3 credit hours)
- PHZ 5156 Computational Physics (3 credit hours)
- PHY 5846C Methods of Experimental Physics (3 credit hours)
- PHY 6420 First Principles Computational Methods in Condensed Matter Physics and Materials Science (3 credit hours)
- PHZ 5437 Nanoscale Surface Physics (3 credit hours)
- PHZ 5432 Introduction to Soft Condensed Matter Physics (3 credit hours)
- PHZ 5933 Selected Topics in Biophysics of Macromolecules (3 credit hours)
- PHY 5937 Special Topics: Nano-Electronics
- PHY 5650 Introduction to Quantum Computation (3 credit hours)
- PHY 6667 Quantum Field Theory I (3 credit hours)
- PHY 7669 Quantum Field Theory II (3 credit hours)
- PHY 6938 Theory and Computation of Molecular Wave Functions (3 credit hours)
- PHY 6938 Selected Topics in Scattering Theory (3 credit hours)
- Two "studio lab" courses: PHY 5140C Ion-solid interactions (3 credit hours) and PHZ 5425C Electron Solid Interactions (3 credit hours)
- One approved elective selected from Materials Science, Physics, Optical Science and Engineering, Electrical Engineering, or Industrial Chemistry
- ~~PHY 7919 Directed Research~~

Optical Physics Specialization

The Optics Specialization coordinator is David Hagan, PhD, College of Optics and Photonics. Students are recommended to take at least one of the following courses.

OSE 6111 Optical wave propagation (3 credit hours)
OSE 5115 Interference and Diffraction (3 credit hours)

Select at least one of the following laboratory courses.

OSE 6526L Laser Engineering Laboratory (3 credit hours)
OSE 6455L Photonics Laboratory (3 credit hours)

The remaining courses (up to three) may be selected from other graduate courses in Optics see www.creol.ucf.edu.

Dissertation—15 Credit Hours Minimum

PHY 7980 Dissertation Research (15 credit hours minimum)

All students require a minimum of 15 credit hours of dissertation prepared in consultation with a dissertation adviser. The fifteen-page written proposal is presented orally to the student's dissertation committee within one year after the candidacy exam. The final oral defense of the dissertation is administered by the student's dissertation committee following completion of a written dissertation describing the student's research.

Examinations

Placement Exam— All incoming Ph.D. students in the Physics will be required to take a placement exam covering topics in Quantum Mechanics, Classical Mechanics, Electromagnetism, and Thermodynamics at the

undergraduate level. ~~A Physics field test is taken during the first year, for advisement purposes only.~~

Candidacy Exam—Part 1 is a written exam covering the common core. It should be taken after the core requirements have been satisfied. The minimum passing grade is 50% and a maximum of two attempts will be allowed. Students who fail the first attempt will be required to take the exam again in the next offering. Students who failed twice can stay in the Ph.D. program until completion of the requirements of the MS program.

After passing the written exam, the student should identify a research supervisor and a dissertation committee must be put in place with the approval of the Graduate Coordinator.

Candidacy Exam and Dissertation Proposal—Part 2 of the **Candidacy Exam** is an oral exam that combines an examination of the student's command of physics *and* his/her **Dissertation Proposal**. It should be taken *no later than one year* after the written part has been satisfied.

Only two attempts to the oral part will be allowed and must happen in consecutive terms. Students who failed twice can stay in the Ph.D. program until completion of the requirements of the MS program. Students who pass the oral exam will gain post-candidacy status.

~~based on upper-division undergraduate material. The exam is taken at the end of the second year.~~ Before passing the candidacy, research credit can be earned as Directed Research (PHY 6918) or as Doctoral Research (PHY 7919). ~~After passing the candidacy examination, the student can register for Doctoral Research (PHY 7919). Before passing the candidacy, research credit can be earned as Directed Research (PHY 7919). Two attempts at the candidacy exam are permitted. The second attempt must happen within one year after failing the first.~~ The post-candidacy student must meet with the dissertation committee at least once a year, so that his/her progress can be evaluated and recommendations be made. In

addition, all post-candidacy students will have to present a seminar on his/her research at least once *before* the dissertation defense (the proposal presentation does not count).

Students are only allowed to register for Dissertation Hours (PHY 7980) after presenting the dissertation proposal.

INDEPENDENT LEARNING

The Physics PhD program requires a doctoral dissertation. This will provide ample opportunities for students to gain independent learning experience through studying published research papers, conducting research and presenting their results in conferences and in peer-reviewed scientific journals.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline(s).

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- The Physics Subject Test of the GRE is recommended, but not required.
- Students entering the Physics graduate program with regular status are normally expected to have completed course work generally

required for a bachelor’s degree in physics, including mechanics, electricity and magnetism, thermal and statistical physics, and quantum mechanics.

Three letters of recommendation.

Statement of goals.

Résumé.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Physics PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 15	Nov 1	-
International Applicants	Jan 15	Jan 15	Jul 1	-
International Transfer Applicants	Jan 15	Mar 1	Sep 1	-

FINANCIALS

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see Student Finances, which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The Financial Information section of the Graduate Catalog is another key resource.

Fellowships

Fellowships are awarded based on academic merit to highly qualified students. They are paid to students through the Office of Student Financial Assistance, based on instructions provided by the College of Graduate Studies. Fellowships are given to support a student's graduate study and do not have a work obligation. For more information, see Fellowships, which includes descriptions of UCF fellowships and what you should do to be considered for a fellowship.

Proposed Physics Ph.D. Graduate Catalog Description
(without edits)

College : Sciences Degree: PhD
Department : Physics Option: Dissertation
Program Websites : http://www.physics.ucf.edu/grad/gradinfo.shtml

PROGRAM DESCRIPTION

The Doctor of Philosophy degree in Physics intends to provide a broad base in experimental and theoretical Physics. A series of core courses and a variety of elective courses offers a basis for attaining the knowledge necessary for a successful career. Students will obtain distinction in their field of study with research opportunities in condensed matter physics, nanostructure devices, surface science, optical physics, complex systems, biophysics, atomic and molecular physics, and planetary/space science. The department is characterized by rapid growth and dynamic partnerships. This activity, fueled by the university's focus on industrial partnerships and research, strengthens the department and provides research and employment opportunities for our students.

The rules and recommendations below do not apply to the Planetary Science track of the Physics Ph.D. program.

CURRICULUM

The Physics PhD program requires a total of 72 credit hours for completion. A specific set of six required core courses (18 hours), four restricted electives (12 hours), and a minimum of 15 hours of dissertation are part of those 72 hours. At least one of the electives must be a methods course selected from a list approved by the Physics Department (see below). The remaining 27 hours of unrestricted electives may consist of research, other electives, and/or dissertation. Courses must be selected so that at least one-half of the required 72 hours are taken at the 6000 level.

Seminar Attendance

Students in their 4th semester and beyond will be required to attend a major fraction of seminars and colloquia hosted by the Physics Department, as well as to make an annual presentation of their research work or independent study.

Total Credit Hours Required:
72 Credit Hours Minimum beyond the Bachelor's Degree; **42** Credit Hours Minimum beyond the Master's Degree

Required Courses—18 Credit Hours

All students are required to take the core courses. For all core courses there will be weekly recitations.

The suggested core course sequence for students starting in the Fall term is:

PHY 5606 Quantum Mechanics I (3 credit hours, Fall term)

PHY 5346 Electrodynamics I (3 credit hours, Fall term)

PHY 6246 Classical Mechanics (3 credit hours, Fall term)

PHY 6624 Quantum Mechanics II (3 credit hours, Spring term)

PHY 6347 Electrodynamics II (3 credit hours, Spring term)

PHY 5524 Statistical Physics (3 credit hours, Spring term)

Elective Courses—12 Credit Hours

Elective and research courses are determined by the students chosen specialization. At least four courses (12 Credit hours) must be formal courses (restricted electives), exclusive of Independent Study and Directed Research. Of the four elective courses, one has to be an approved Methods Course for all specializations:

(PHY 5846C)	Methods of Experimental Physics
(PHZ 5156)	Computational Physics
(AST 5765)	Advanced Astronomical Data Analysis
(PHY 5937)	Nano-Electronics

General Physics Specialization

The General Physics Specialization emphasizes strong preparation in physics fundamentals. It is intended to prepare students for careers in theoretical physics teaching at the college level. A number of active research programs exist in the department to accommodate such students.

Recommended Courses

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Recommended Courses

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INDEPENDENT LEARNING

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- Three letters of recommendation.
- Statement of goals.
- Résumé.

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Application Deadlines

Physics PhD	Fall Priority	Fall	Spring	Summer
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FINANCIALS

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Fellowships are awarded based on academic merit to highly qualified students. They are paid to students through the Office of Student Financial Assistance, based on instructions provided by the College of Graduate Studies. Fellowships are given to support a student's graduate study and do not have a work obligation. For more information, see Fellowships, which includes descriptions of UCF fellowships and what you should do to be considered for a fellowship.

REVISED
Syllabus
1-25-10

MUT 5XXX
Twentieth Century Musical Analysis
Instructor: Dr. Aaron I. Hilbun
Office Location: 201B Colbourn Hall **email: ahilbun@mail.ucf.edu**
Office Hours: by appointment

Course Description:
Twentieth Century Musical Analysis is an graduate level course in music theory and analysis that examines the form and structure of contemporary music. This is not a survey course, but a thorough examination of selected compositions by various composers from 1900 to the present.

Prerequisites: Graduate standing in music

Course Objectives:
- To gain familiarity with established techniques for understanding and analyzing post-tonal music, including basic set-theory and twelve-tone analysis
- To understand a range of compositional techniques used in western art music over the last century
- ***To read and discuss scholarly articles, and be able to address analytical issues in a coherent and sophisticated way***
- To gain familiarity with various experimental approaches to music over the last century

Required Materials:
- Joseph Straus, *Introduction to Post-Tonal Theory*
- Bryan Simms, *Twentieth Century Music, An Anthology*
- Assigned readings and listening on reserve in the UCF Library

Grading:
Your grade for this course will be weighted as follows:

Weekly assignments	25%
Participation in class discussion	10%
Two exams	30%
Final project	***35%***

Written assignments: There will be weekly assignments from the text, or an analysis of a score that will be turned in to the instructor. Assignments will not be accepted after the beginning of the first class meeting after the original due date. For example, an assignment due Friday must be turned in Friday, or at the latest, ***before*** the start of Monday's class. **Due to the leniency of this policy, exceptions will be made only under extraordinary circumstances.**

Class participation: The heart of the learning process in this course will be our class discussions. The amount you learn in this course will be a direct function of your contribution to these discussions. Failure to actively and regularly participate in class discussions will lower this part of your course grade.

Final project: The final project will consist of two components, an analysis and an original composition. In consultation with the instructor, you will choose a specific composition (or movement from a larger composition) and write a ten to twelve page analysis paper following the proper style and formatting conventions of academic writing. You must cite a minimum of three scholarly journal articles. For the composition portion, you will be required to demonstrate a sufficient knowledge of the composer's compositional techniques to apply them in your own original composition. Compositions must be submitted electronically as either a Finale file, or in another format that can be played back in Finale.

Academic Integrity:
Attendance: In and of itself, attendance is not a component of your grade, however attendance will be documented should any grade disputes arise. Any missed exams or late assignments will generally be given a grade of 0. Documented illnesses, family emergencies and religious observances will be excused. Other reasons will be evaluated on a case-by-case basis.

Cheating/Plagiarism: Plagiarism and cheating of any kind on an examination, research paper or assignment will result at least in an F for that assignment (and may, depending on the severity of the case, lead to an F for the entire course) and may be subject to appropriate referral to the Office of Student Conduct for further action. See the UCF Golden Rule for further information. I will assume for this course that you will adhere to the academic creed of this university and will maintain the highest standards of academic integrity.

In the assignments and paper, remember that failure to cite any ideas that are not your own is plagiarism, and tantamount to cheating.

Disabilities and Handicaps: The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students with disabilities who need accommodations in this course must contact the professor at the beginning of the semester to discuss needed accommodations. No accommodations will be provided until the student has met with the professor to request accommodations. Students who need accommodations must be registered with Student Disability Services, Student Resource Center Room 132, phone (407) 823-2371, TTY/TDD only phone (407) 823-2116, before requesting accommodations from the professor.

1st GRAD Syllabus + UG Syllabus

MUT 5XXX
Twentieth Century Musical Analysis (3 credit hours)
Instructor: Dr. Aaron I. Hilbun
Office Location: 201B Colbourn Hall **email: ahilbun@mail.ucf.edu**
Office Hours: by appointment

Course Description:
MUT 5XXX is a graduate course in music theory and analysis that examines the form and structure of contemporary music. This is not a survey course, but a thorough examination of selected compositions by various composers from 1900 to the present.

Prerequisites: Graduate standing in music or C. I.

Course Objectives:
- To gain familiarity with established techniques for understanding and analyzing post-tonal music, including basic set-theory and twelve-tone analysis
- To understand a range of compositional techniques used in western art music over the last century
- ***To read and discuss scholarly articles, and be able to address analytical issues in a coherent and sophisticated way***
- To gain familiarity with various experimental approaches to music over the last century

Required Materials:
- Joseph Straus, *Introduction to Post-Tonal Theory*
- Bryan Simms, *Twentieth Century Music, An Anthology*
- Assigned readings and listening on reserve in the UCF Library

Grading:
Your grade for this course will be weighted as follows:

Weekly assignments	30%
Participation in class discussion	10%
Two exams	30%
Analysis paper	30%

Written assignments: There will be weekly assignments, such as theoretical exercises from the text or analyses of scores. Assignments will not be accepted after the beginning of the first class meeting after the original due date. For example, an assignment due Friday must be turned in Friday, or at the latest, **before** the start of Monday's class. **Due to the leniency of this policy, exceptions will be made only under extraordinary circumstances.**

Class participation: The heart of the learning process in this course will be our class discussions. The amount you learn in this course will be a direct function of your contribution to these discussions. Failure to actively and regularly participate in class discussions will lower this part of your course grade.

Analysis paper: ***You are required to turn in an analysis paper (8-10 typewritten pages, excluding the bibliography)*** of a composition or part of a composition **not discussed in class**. The instructor must approve all paper topics. Extensions will be granted only under extraordinary circumstances.

I am always available to read drafts and offer suggestions. You may also seek assistance through the University Writing Center in MOD 608.

Academic Integrity:
Attendance: In and of itself, attendance is not a component of your grade, however attendance will be documented should any grade disputes arise. Any missed exams or late assignments will generally be given a grade of 0. Documented illnesses, family emergencies and religious observances will be excused. Other reasons will be evaluated on a case-by-case basis.

Cheating/Plagiarism: Plagiarism and cheating of any kind on an examination, research paper or assignment will result at least in an F for that assignment (and may, depending on the severity of the case, lead to an F for the entire course) and may be subject to appropriate referral to the Office of Student Conduct for further action. See the UCF Golden Rule for further information. I will assume for this course that you will adhere to the academic creed of this university and will maintain the highest standards of academic integrity.

In the assignments and paper, remember that failure to cite any ideas that are not your own is plagiarism, and tantamount to cheating.

Disabilities and Handicaps: The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students with disabilities who need accommodations in this course must contact the professor at the beginning of the semester to discuss needed accommodations. No accommodations will be provided until the student has met with the professor to request accommodations. Students who need accommodations must be registered with Student Disability Services, Student Resource Center Room 132, phone (407) 823-2371, TTY/TDD only phone (407) 823-2116, before requesting accommodations from the professor.

MUT 3571 Fall 2009
Twentieth Century Musical Analysis (3 credit hours)
Instructor: Dr. Aaron I. Hilbun
Office Location: 201B Colbourn Hall **email: ahilbun@mail.ucf.edu**
Office Hours: by appointment

Course Description:
MUT 3571 an upper-level course in music theory and analysis that examines the form and structure of contemporary music. This is not a survey course, but a thorough examination of selected compositions by various composers from 1900 to the present.

Prerequisites: MUT 2127 or equivalent

Course Objectives:
- To gain familiarity with established techniques for understanding and analyzing post-tonal music, including basic set-theory and twelve-tone analysis
- To understand a range of compositional techniques used in western art music over the last century
- To gain familiarity with various experimental approaches to music over the last century

Required Materials:
- Joseph Straus, *Introduction to Post-Tonal Theory*
- Bryan Simms, *Twentieth Century Music, An Anthology*
- Assigned readings and listening on reserve in the UCF Library

Grading:
Your grade for this course will be weighted as follows:

Weekly assignments	30%
Participation in class discussion	10%
Two exams	30%
Analysis paper	30%

Written assignments: There will be weekly assignments, such as theoretical exercises from the text or analyses of scores. Assignments will not be accepted after the beginning of the first class meeting after the original due date. For example, an assignment due Friday must be turned in Friday, or at the latest, **before** the start of Monday's class. **Due to the leniency of this policy, exceptions will be made only under extraordinary circumstances.**

Class participation: The heart of the learning process in this course will be our class discussions. The amount you learn in this course will be a direct function of your contribution to these discussions. Failure to actively and regularly participate in class discussions will lower this part of your course grade.

Analysis paper: You are required to turn in an analysis paper (a minimum of five typewritten pages, excluding the bibliography) of a composition or part of a composition **not discussed in class**. The instructor must approve all paper topics. Extensions will be granted only under extraordinary circumstances.

I am always available to read drafts and offer suggestions. You may also seek assistance through the University Writing Center in MOD 608.

Academic Integrity:
Attendance: In and of itself, attendance is not a component of your grade, however attendance will be documented should any grade disputes arise. Any missed exams or late assignments will generally be given a grade of 0. Documented illnesses, family emergencies and religious observances will be excused. Other reasons will be evaluated on a case-by-case basis.

Cheating/Plagiarism: Plagiarism and cheating of any kind on an examination, research paper or assignment will result at least in an F for that assignment (and may, depending on the severity of the case, lead to an F for the entire course) and may be subject to appropriate referral to the Office of Student Conduct for further action. See the UCF Golden Rule for further information. I will assume for this course that you will adhere to the academic creed of this university and will maintain the highest standards of academic integrity.

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REVISED
Syllabus
1-25-10

MUT 5XXX - Counterpoint
Course Syllabus

Course Description: Approximately the first two-thirds of this course will be dedicated to the study of tonal counterpoint in the Baroque style. The first unit will consist of a review of two-voice counterpoint, followed by an examination of J. S. Bach's Two and Three Part Inventions. The second unit will focus on the fugue and examine in detail fugues from J. S. Bach's *The Well-Tempered Clavier*. The final unit will focus on contemporary applications of counterpoint.

Prerequisites: Graduate standing in music

Course Objectives:
- To understand and be able to define the term counterpoint
- To understand the relationship between melodic lines and harmonic structure
- ***To read and understand scholarly articles and be able to discuss contrapuntal techniques in a coherent and sophisticated way***
- ***Apply advanced analysis skills to music examples of counterpoint***
- Be able to compose using the techniques of species counterpoint as used by 18th century composers
- ***Be able to compose a three-voice fugue in the style of J. S. Bach***

Required Materials:
- Kent Kennan, *Counterpoint*
- J. S. Bach, Two Part Inventions
- J. S. Bach, Three Part Inventions
- J. S. Bach, *The Well-Tempered Clavier*
- Other readings and listening as assigned, on reserve in the UCF Library

Grading:
Your grade for this course will be determined as follows:

Analysis assignments	25%
Composition assignments	25%
Final project	***40%***
Attendance and Class Participation	10%

Analysis Assignments: You will be assigned six short analysis assignments. Analysis assignments will consist of an analysis of a passage from a Bach invention or fugue, to be accompanied by a two to three page paper in formal academic prose (observing proper formatting and citation conventions) explaining your analyzed score.

Composition Assignments: You will be assigned six brief composition assignments in which you will be asked to demonstrate your knowledge of the compositional techniques learned in class by composing part of a two or three part invention or a

three voice fugue. Composition assignments must be submitted electronically as a Finale file, or some other format that can be played back in Finale.

Assignment Due Dates: Assignments will not be accepted after the beginning of the first class meeting after the original due date. For example, an assignment due Friday must be turned in Friday, or at the latest, ***before*** the start of Monday's class. **Due to the leniency of this policy, exceptions will be made only under extraordinary circumstances.**

Final project: The final project will consist of two parts, an analysis of a fugue by J. S. Bach, and a composition component in which you will be required to compose a complete three-voice fugue in the style of J. S. Bach. The analysis will consist of a five to eight page paper following the proper style and formatting conventions for academic writing. You will be expected to cite a minimum of three scholarly journal articles discussed in class. For the composition portion, you are expected to demonstrate a sufficient grasp of J. S. Bach's compositional techniques (as shown in the analysis) to apply them to your own original work. As with the composition assignments, the fugue must also be submitted electronically, either as a Finale file, or in some other format that can be played back in Finale.

Class participation: The heart of the learning process in this course will be our class discussions. The amount you learn in this course will be a direct function of your contribution to these discussions. Failure to actively and regularly participate in class discussions will lower this part of your course grade.

Academic Integrity:
Attendance: In and of itself, attendance is not a component of your grade, however attendance will be documented should any grade disputes arise. Furthermore, not being present in class precludes participation in class discussions and excessive absences will adversely affect that portion of your grade. Any missed exams or late assignments will generally be given a grade of 0. Documented illnesses, family emergencies and religious observances will be excused. Other reasons will be evaluated on a case-by-case basis.

Cheating/Plagiarism: Plagiarism and cheating of any kind on an examination, research paper or assignment will result at least in an F for that assignment (and may, depending on the severity of the case, lead to an F for the entire course) and may be subject to appropriate referral to the Office of Student Conduct for further action. See the UCF Golden Rule for further information. I will assume for this course that you will adhere to the academic creed of this university and will maintain the highest standards of academic integrity.

In the assignments and paper, remember that failure to cite any ideas that are not your own is plagiarism, and tantamount to cheating.

Disabilities and Handicaps: The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students with disabilities who need accommodations in this course must contact the professor at the beginning of the semester to discuss needed accommodations. No accommodations will be provided until the student has met with the professor to request accommodations. Students who need accommodations must be registered with Student Disability Services, Student Resource Center Room 132, phone (407) 823-2371, TTY/TDD only phone (407) 823-2116, before requesting accommodations from the professor.

1st GRAD Syllabus + UG Syllabus

MUT 5XXX- Counterpoint (3 credits)
Course Syllabus

Dr. Aaron Hilbun
ahilbun@mail.ucf.edu

Course Description: Approximately the first two-thirds of this course will be dedicated to the study of tonal counterpoint in the Baroque style. The first unit will consist of a review of two-voice counterpoint, followed by an examination of J. S. Bach's Two and Three Part Inventions. The second unit will focus on the fugue and examine in detail fugues from J. S. Bach's *The Well-Tempered Clavier*. The final unit will focus on contemporary applications of counterpoint.

Prerequisites: Graduate status in music or C. I.

Course Objectives:
- To understand and be able to define the term counterpoint
- To understand the relationship between melodic lines and harmonic structure
- Be able to compose using the techniques of species counterpoint as used by 18th century composers
- Be able to compose a short three-voice fugue in the style of J. S. Bach
- ***Apply advanced analysis skills to music examples of counterpoint***
- ***To read and discuss scholarly articles, and be able to address analytical issues in a coherent and sophisticated way***

Required Materials:
- Kent Kennan, *Counterpoint*
- J. S. Bach, Two Part Inventions
- J. S. Bach, Three Part Inventions
- J. S. Bach, *The Well-Tempered Clavier*
- Other readings and listening as assigned, on reserve in the UCF Library

Grading:
Your grade for this course will be determined as follows:

Analysis assignments	30%
Composition assignments	30%
Final fugue project	30%
Attendance and Class Participation	10%

Assignments: You will be assigned six analysis assignments and six composition assignments for a total of twelve weekly assignments. Analysis assignments will consist of an analysis of a passage from a Bach invention or fugue, to be accompanied by a ***four page paper*** in formal academic prose (and observing proper formatting and citation conventions) explaining your analyzed score. In the composition assignments, you will compose your own short pieces applying the

knowledge gained in class and through the analyses. Composition assignments must be submitted electronically as a Finale file, or some other MIDI format that can be played back in Finale. Assignments will not be accepted after the beginning of the first class meeting after the original due date. For example, an assignment due Friday must be turned in Friday, or at the latest, **before** the start of Monday's class. **Due to the leniency of this policy, exceptions will be made only under extraordinary circumstances.**
Final fugue project: In lieu of a final examination or research paper, ***you will be required to compose a short three-voice fugue*** in the style of J. S. Bach. As with the composition assignments, these must also be submitted electronically, either as a Finale file, or some other MIDI format that can be played back in Finale.

Class participation: The heart of the learning process in this course will be our class discussions. The amount you learn in this course will be a direct function of your contribution to these discussions. Failure to actively and regularly participate in class discussions will lower this part of your course grade.

Academic Integrity:
Attendance: In and of itself, attendance is not a component of your grade, however attendance will be documented should any grade disputes arise. Furthermore, not being present in class precludes participation in class discussions and excessive absences will adversely affect that portion of your grade. Any missed exams or late assignments will generally be given a grade of 0. Documented illnesses, family emergencies and religious observances will be excused. Other reasons will be evaluated on a case-by-case basis.

Cheating/Plagiarism: Plagiarism and cheating of any kind on an examination, research paper or assignment will result at least in an F for that assignment (and may, depending on the severity of the case, lead to an F for the entire course) and may be subject to appropriate referral to the Office of Student Conduct for further action. See the UCF Golden Rule for further information. I will assume for this course that you will adhere to the academic creed of this university and will maintain the highest standards of academic integrity.

In the assignments and paper, remember that failure to cite any ideas that are not your own is plagiarism, and tantamount to cheating.

Disabilities and Handicaps: The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students with disabilities who need accommodations in this course must contact the professor at the beginning of the semester to discuss needed accommodations. No accommodations will be provided until the student has met with the professor to request accommodations. Students who need accommodations must be registered with Student Disability Services, Student Resource Center Room 132, phone (407) 823-2371, TTY/TDD only phone (407) 823-2116, before requesting accommodations from the professor.

MUT 3401 - Counterpoint
Course Syllabus

Dr. Aaron Hilbun
ahilbun@mail.ucf.edu

Course Description: Approximately the first two-thirds of this course will be dedicated to the study of tonal counterpoint in the Baroque style. The first unit will consist of a review of two-voice counterpoint, followed by an examination of J. S. Bach's Two and Three Part Inventions. The second unit will focus on the fugue and examine in detail fugues from J. S. Bach's *The Well-Tempered Clavier*. The final unit will focus on contemporary applications of counterpoint.

Prerequisites: MUT 2127 or equivalent

Course Objectives:
- To understand and be able to define the term counterpoint
- To understand the relationship between melodic lines and harmonic structure
- Be able to compose using the techniques of species counterpoint as used by 18th century composers
- Be able to compose a three-voice fugue exposition in the style of J. S. Bach

Required Materials:
- Kent Kennan, *Counterpoint*
- J. S. Bach, Two Part Inventions
- J. S. Bach, Three Part Inventions
- J. S. Bach, *The Well-Tempered Clavier*
- Other readings and listening as assigned, on reserve in the UCF Library

Grading:
Your grade for this course will be determined as follows:

Analysis assignments	30%
Composition assignments	30%
Fugue exposition	30%
Attendance and Class Participation	10%

Assignments: You will be assigned six analysis assignments and six composition assignments for a total of twelve weekly assignments. Analysis assignments will consist of an analysis of a passage from a Bach invention or fugue, to be accompanied by a two page paper in formal academic prose (and observing proper formatting and citation conventions) explaining your analyzed score. In the composition assignments, you will compose your own short pieces applying the knowledge gained in class and through the analyses. Composition assignments must be submitted electronically as a Finale file, or some other MIDI format that can be played back in Finale. Assignments will not be accepted after the beginning of the

first class meeting after the original due date. For example, an assignment due Friday must be turned in Friday, or at the latest, ***before*** the start of Monday's class. **Due to the leniency of this policy, exceptions will be made only under extraordinary circumstances.**

Fugue Exposition: In lieu of a final examination or research paper, you will be required to compose a three-voice fugue exposition in the style of J. S. Bach. As with the composition assignments, these must also be submitted electronically, either as a Finale file, or some other MIDI format that can be played back in Finale.

Class participation: The heart of the learning process in this course will be our class discussions. The amount you learn in this course will be a direct function of your contribution to these discussions. Failure to actively and regularly participate in class discussions will lower this part of your course grade.

Academic Integrity:

Attendance: In and of itself, attendance is not a component of your grade, however attendance will be documented should any grade disputes arise. Furthermore, not being present in class precludes participation in class discussions and excessive absences will adversely affect that portion of your grade. Any missed exams or late assignments will generally be given a grade of 0. Documented illnesses, family emergencies and religious observances will be excused. Other reasons will be evaluated on a case-by-case basis.

Cheating/Plagiarism: Plagiarism and cheating of any kind on an examination, research paper or assignment will result at least in an F for that assignment (and may, depending on the severity of the case, lead to an F for the entire course) and may be subject to appropriate referral to the Office of Student Conduct for further action. See the UCF Golden Rule for further information. I will assume for this course that you will adhere to the academic creed of this university and will maintain the highest standards of academic integrity.

In the assignments and paper, remember that failure to cite any ideas that are not your own is plagiarism, and tantamount to cheating.

Disabilities and Handicaps: The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students with disabilities who need accommodations in this course must contact the professor at the beginning of the semester to discuss needed accommodations. No accommodations will be provided until the student has met with the professor to request accommodations. Students who need accommodations must be registered with Student Disability Services, Student Resource Center Room 132, phone (407) 823-2371, TTY/TDD only phone (407) 823-2116, before requesting accommodations from the professor.

Graduate Council Curriculum Committee
Course Agenda for 02-04-2010

College of Arts & Humanities Course Action Additions

Tabled. Needs more rigor for grad course. Received revised syllabus. SPLIT CLASS

MUT 5XXX CAH-Music 3(3,0)

Analysis of Twentieth Century Music: PR: Graduate Standing in Music or C.I. Analysis of music in a selection of the different styles practiced in the 20th century, with an emphasis on Western art music. *Fall.*

30 character abbreviation: **Analysis Twentieth C. Music**

Tabled. Needs more rigor for grad course. Received revised syllabus. SPLIT CLASS

MUT 5XXX CAH-Music 3(3,0)

Counterpoint: PR: Graduate standing in Music or C.I. Principles of counterpoint and the study of contrapuntal styles in Western music from the 16th century to the present day. *Even Spring.*

30 character abbreviation: **Counterpoint**

College of Sciences Course Action Revisions

Tabled. Committee requesting a 3000 level prerequisite course, possibly a Calculus course.

MAT 5711 Scientific Computing 3(3,0)

PR: MAC 2313, MAP ~~2302, graduate status or senior standing,~~ 2302 or C.I.

~~Basic programming skills using Mathematica, Maple, Matlah, or Java in solving basic scientific computing problems; preparing students for advanced computational methods and algorithms.~~

Matlab fundamentals, computer arithmetic, nonlinear equations, polynomial interpolation, divided; differences, splines, curve fitting, least-squares method, numerical differentiation and Integration.

Engineering & Computer Science Course Action Revisions

Tabled. Committee requesting clarification on changing prereq. from 5000 to a 3000 level. Received new information.

~~**EMA 6611C Optoelectronic Materials Processing 3(2,2)**~~

EMA 6611 Optoelectronics Materials Processing 3(3,0)

~~PR: EMA 5317,~~ PR: EGN 3365, Graduate standing or C.I.

~~Techniques~~ Electronic Theory for Materials Preparation, Doping, Metallization, Effect of Materials Properties on Device ~~(e.g.,~~ (eg. Solar Cells, ~~lasers and transistors) performances, electronic and optical characterization of device materials.~~ LEDs, and Detectors) Performances.

30 character abbreviation: **Optoelect Materials Processing**