

**From:** [Soave, Melissa](mailto:Soave.Melissa)  
**To:** [Soave, Melissa](mailto:Soave.Melissa)  
**Subject:** FW: Fwd: FW: Council on Academic Affairs Semester Conversion  
**Date:** Wednesday, February 23, 2011 6:58:10 PM

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----- Forwarded message -----

**From:** Susan Fisher <[14.fisher@gmail.com](mailto:14.fisher@gmail.com)>  
**Date:** Tue, Feb 22, 2011 at 8:48 PM  
**Subject:** Fwd: Fwd: FW: Council on Academic Affairs Semester Conversion  
**To:** [alexander.282@gmail.com](mailto:alexander.282@gmail.com)

Dear Leslie,

Below, please find Entomology's response to the questions you had about conversion to semesters.

Susan Fisher

Question 1, part 1: The entomology faculty thoroughly considered the decision to remove the Organic Chemistry and Calculus 2 courses from the entomology major requirements. The current requirement for Calculus-2 and Organic under the quarter system is typical of all majors in the other departments in the College of Biological Sciences, which was entomology's academic home until last year. Now that we moved to the College of FAES, our proposed dropping of calculus-2 and organic chem would make us similar to other majors in CFAES, which do not require these courses. We consulted with current and former students and ultimately determined that majors would not be adversely affected by the removal of these requirements. Students are still required to take General Chemistry and Calculus 1. Moreover, for those students considering graduate school, we still recommend that they take Calculus 2 and Organic Chemistry as electives.

Question 1, part 2: Our primary distance ed course is 4600. The 4600 course is not for our majors; it is a support course. It serves as a pre-requisite for any of the 7 applied entomology courses for majors from other related departments. Establishing 4600 as a distance ed class gives more flexibility in when it is offered and allows us to reach non-traditional students who do not live in Columbus but who can attend one long class per week. We will offer 4600 in the first 7 weeks of both autumn and spring semesters. It leads into the applied courses held in the second 7 weeks. Moreover, some of the applied classes will have the lecture component as distance ed, but all will meet in person for the lab component. Because our department is co-located at the main campus in Columbus and at Wooster, we regularly use distance learning technologies for courses, guest lectures, and department meetings. We anticipate a very smooth transition to the distance education format for 4600.

Question 2: Graduate student advising will remain a cornerstone of our department. Our advising plan has two parts: we will disseminate general information about the transition to all graduate students and make that same information available on our department website. In addition to the on-going advising, each advisor will also have a follow up conversation with each of his/her advisees specifically to address any individual concerns. Our graduate student club recently met and reviewed our current transition plan, and reported that they would like to see a plan with much more detail. The entomology curriculum committee agrees with this

need, and plans to put together a more detailed version by the start of spring quarter 2011.

Dear Linda,

I am writing on behalf of the Council of Academic Affairs in regards to the process of semester conversion. I am the Chair of the Subcommittee that is responsible for reviewing the proposals from the College of FAES. We are hoping that we can bring the Entomology proposals to the entire CAA at our next meeting on Wednesday but we need answers to a few quick questions as soon as you are able. I'm sorry to both you with this, rather than someone directly in Entomology, but there was not a representative from Entomology listed on our contact sheet.

Overall, we were very impressed with the proposals coming from Entomology. They were extremely well thought out and conceived, and on the graduate level we were especially impressed with their efforts to incorporate students in the process.

As such, we just have a few questions:

1. In regards to the BS, do the faculty have concerns about the impact that the removal of the chemistry and calculus requirement might have on students? In addition, it seems that some required courses will be distance-learning courses; can they clarify the rationale for that?
2. On the graduate level, we had a slight concern about the transition plan. We liked the course plans, but we felt that they didn't make clear exactly what the process of advising would be. We want to hear them re-affirm the university's commitment that students will not be harmed by the transition.

Can you or someone in Entomology address these concerns for us?

Best, Leslie

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Leslie M. Alexander, Ph.D.  
Associate Professor  
Department of History  
The Ohio State University

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Leslie M. Alexander, Ph.D.  
Associate Professor  
Department of History  
The Ohio State University

Status: PENDING

**PROGRAM REQUEST**  
Ph.D. in Entomology

Last Updated: Myers,Dena Elizabeth  
01/19/2011

<b>Fiscal Unit/Academic Org</b>	Entomology - D1130
<b>Administering College/Academic Group</b>	Food, Agric & Environ Science
<b>Co-administering College/Academic Group</b>	
<b>Semester Conversion Designation</b>	Re-envisioned with significant changes to program goals and/or curricular requirements (e.g., degree/major name changes, changes in program goals, changes in core requirements, structural changes to tracks/options/courses)
<b>Current Program/Plan Name</b>	Entomology
<b>Proposed Program/Plan Name</b>	Ph.D. in Entomology
<b>Program/Plan Code Abbreviation</b>	ENTMLGY-PH
<b>Current Degree Title</b>	Doctor of Philosophy

**Credit Hour Explanation**

Program credit hour requirements		A) Number of credit hours in current program (Quarter credit hours)	B) Calculated result for 2/3rds of current (Semester credit hours)	C) Number of credit hours required for proposed program (Semester credit hours)	D) Change in credit hours
Total minimum credit hours required for completion of program		120	80.0	80	0.0
Required credit hours offered by the unit	Minimum	50	33.3	32	1.3
	Maximum	70	46.7	50	3.3
Required credit hours offered outside of the unit	Minimum	0	0.0	0	0.0
	Maximum	0	0.0	0	0.0
Required prerequisite credit hours not included above	Minimum				
	Maximum				

**Program Learning Goals**

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

Status: PENDING

**PROGRAM REQUEST**  
Ph.D. in Entomology

Last Updated: Myers, Dena Elizabeth  
01/19/2011

**Program Learning Goals**

- Students will achieve an understanding of insect biology at the molecular, cellular, organ, organismal, population, community, ecosystem, and biosphere levels and their interconnections to discover system-level phenomena.
- Students will achieve a holistic understanding of managed and natural ecosystems using insects as models.
- Students will achieve a holistic understanding of sustainability in ways that cross disciplinary boundaries from entomology to natural, physical, economic and social sciences.
- Students will achieve an appreciation of the threats and ecosystem services attributed to insects and how these can shape scientific discovery, policy formation, and resource management decisions.
- Students will achieve an understanding of theory, principles, and tactics of integrated management of insects as pests.
- Students will achieve an understanding of the history and the nature of science including the generation and application of new knowledge, including discovery and hypothesis testing.
- Students will achieve an ethical framework for inquiry and action in science and society that includes entrepreneurship and business; collaboration, political and community engagement; and environmental stewardship.
- Students will achieve a demonstrated ability to apply quantitative and critical thinking skills to issue-based cross-disciplinary work and to communicate effectively to multiple audiences.
- Students will achieve an experience-based literacy in current techniques for outreach, engagement and classroom teaching.
- Students will achieve an appreciation and familiarity with the outreach and engagement mission of the land grant system, and its history to the service of society.

**Assessment**

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

**Is this a degree program (undergraduate, graduate, or professional) or major proposal? Yes**

**Does the degree program or major have an assessment plan on file with the university Office of Academic Affairs? No**

**DIRECT MEASURES (means of assessment that measure performance directly, are authentic and minimize mitigating or intervening factors)**

**Standardized tests**

- Local comprehensive or proficiency examinations

**Classroom assignments**

- Other classroom assessment methods (e.g., writing assignments, oral presentations, oral exams)

**Evaluation of a body of work produced by the student**

- Practicum, internship or research evaluation of student work

**Direct assessment methods specifically applicable to graduate programs**

- Candidacy exams
- Research proposals written and grants awarded
- Thesis/dissertation oral defense and/or other oral presentation
- Thesis/dissertation (written document)
- Publications

**INDIRECT MEASURES (means of assessment that are related to direct measures but are steps removed from those measures)**

Status: PENDING

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Last Updated: Myers,Dena Elizabeth  
01/19/2011

**Surveys and Interviews**

- Student survey
- Employer feedback or survey
- Student evaluation of instruction
- Student interviews or focus groups

**Additional types of indirect evidence**

- Job or post-baccalaureate education placement
- Student or alumni honors/recognition achieved
- External program review

**USE OF DATA (how the program uses or will use the evaluation data to make evidence-based improvements to the program periodically)**

- Meet with students directly to discuss their performance
- Analyze and discuss trends with the unit's faculty

**Program Specializations/Sub-Plans**

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.

**Pre-Major**

Does this Program have a Pre-Major? No

**Attachments**

- CurriculumMapEntomolGrad.pdf: learning objectives  
*(Curricular Map(s). Owner: Welty,Celeste)*
- EntomologyProgram\_PhD(final).pdf: Ph.D. program-final  
*(Program Proposal. Owner: Welty,Celeste)*

**Comments**

**Workflow Information**

Status	User(s)	Date/Time	Step
Submitted	Welty,Celeste	12/10/2010 03:44 PM	Submitted for Approval
Approved	Fisher,Susan Warwick	12/11/2010 11:25 AM	Unit Approval
Approved	Stokoe,Laurie Anne	01/14/2011 04:24 PM	College Approval
Approved	Myers,Dena Elizabeth	01/19/2011 10:15 AM	GradSchool Approval
Pending Approval	Soave,Melissa A	01/19/2011 10:15 AM	CAA Approval

# *Program Proposal*

## Ph.D. in Entomology

The Department of Entomology

College of Food, Agricultural, and  
Environmental Sciences

November 2010



Department of Entomology

College of Food, Agriculture and Environmental Sciences  
202 Kottman Hall  
2021 Coffey Rd.  
Columbus, OH 43210  
Phone (614) 292-8209

Office of Academic Affairs  
203 Bricker Hall  
190 North Oval Mall  
Columbus, Ohio 43210

Wednesday, November 9, 2010

To whom it may concern:

The Department of Entomology currently offers four programs: an undergraduate major in Entomology, an undergraduate minor in Entomology, a Master of Science in Entomology, and a Doctor of Philosophy in Entomology. All four programs will remain in the semester system with modifications to each. In addition, one new program and one revised program are proposed; the new program is a graduate minor in Entomology, and the revised program is the undergraduate major in Plant Health Management, which we are now joining in collaboration with Plant Pathology. The following document describes the proposed program for the **Doctor of Philosophy in Entomology** within the College of Food, Agricultural and Environmental Sciences, which will begin with the transition to semesters in the summer of 2012. The doctorate in entomology program currently is a three- to four-year program for students entering with a M.S. degree, or a four-to six-year program for students without a M.S. degree. Under the semester system, the name of the degree and the time requirement will remain the same. The degree will continue to require a dissertation.

The Doctor of Philosophy in Entomology program will require 80 credit hours of course work including research hours. The core curriculum consists of three entomological 'fundamentals' courses, four 'hands-on research methods' courses, and at least two of the 'professional development skills' courses offered in our department. In addition, all Ph.D. students will be required to take one ENT 8800 Research and Training Seminar and one ENT 8000 Entomology Seminar, thus accumulating a total of 23 core course credits. All doctoral students are also required to register for ENT8999 Research Credits as needed to complete degree requirements or maintain active status. Students may take any number of electives offered within or outside the department. Appropriate substitutions to core courses will be allowed by the Departmental Graduate Studies Committee based on a formal request by the student that is supported by the student's Student Advisory Committee (SAC). Students will be highly advised by faculty and staff and will be guided to develop a plan that fits their career goals.

The doctorate in entomology remains primarily a research degree, but the program has been completely re-envisioned and re-designed based on comprehensive external and internal reviews of our graduate teaching in Entomology. Following our Department's external (CSREES) and internal reviews, I established an Adhoc Curriculum Committee in 2005 to critically examine our graduate teaching program and develop a new curriculum. The committee lead by Professor Parwinder Grewal examined the course enrollment data, course syllabi, and national trends to determine whether our course offerings were meeting the educational needs of our students. The committee also conducted a comprehensive electronic survey to assess the curriculum and non-curriculum academic needs and expectations of our graduate students. In its report submitted to the department, the committee found that the then OSU Entomology course offerings to be attractive and comparable to most Entomology departments nationwide, but it noted that improvements were needed to move

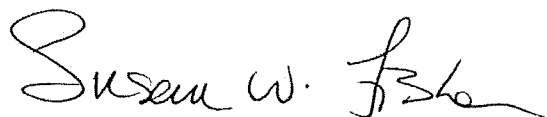


OSU to the top of Entomology Graduate Programs in the nation. The committee presented its findings to the department and proposed a fundamentally new approach to graduate training in Entomology. The new approach, *ecosystem to molecule training in entomology*, envisioned to provide the most comprehensive graduate training with learning opportunities for each student ranging from molecule to ecosystem along with professional development skills needed to succeed in today's world. Since then Entomology faculty have met several times to discuss the new curriculum proposal.

The faculty in the Department of Entomology met on June 17, 2010 in a retreat specifically designed to discuss the transition to semesters. At the retreat the graduate program curricula was determined. The faculty since has reviewed the curricula, learning outcomes, rationale, assessment plan, transition policy, and semester course list for all semester programs. A vote was conducted by the faculty on November, 23, 2010. The vote for the proposal was 12 yes and 1 no. We also took a separate vote to discontinue the requirement of ENT 795 in the Semester system and the vote was 10 yes and 3 no. Therefore, we plan to continue ENT 795 as an elective under the new number (ENT 7980) in the semester system. Subsequently, we forwarded the proposal to the College of Food, Agricultural, and Environmental Sciences for review.

We have received substantial input from our graduate students in developing the most appropriate curriculum in the semester system. The graduate students have also helped develop the transition plan. We also have incorporated industry and stakeholder input.

Sincerely,

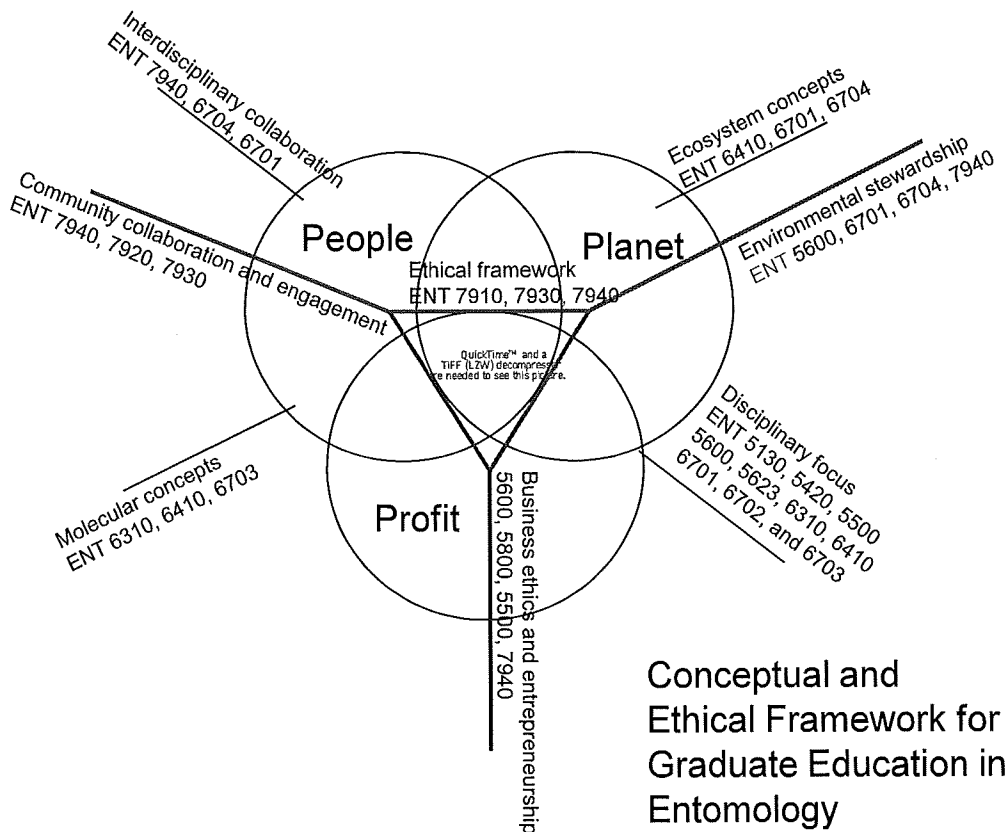
A handwritten signature in black ink that reads "Susan W. Fisher". The signature is written in a cursive style with a large initial 'S' and a stylized 'F'.

Dr. Susan Fisher  
Chair and Professor  
Department of Entomology

**Rationale statement for the Doctor of Philosophy in Entomology program**

Insects are the largest existing group of living organisms on Planet Earth and, while largely unappreciated, are arguably the most impactful. Insects are highly adaptable and can be found in virtually all terrestrial and fresh water habitats. Some have major adverse impacts on human activities: destroying crops, food supplies, structures, and natural resources, transmitting diseases, or simply being annoyances. However, the vast majority of insects are considered beneficial: providing pollination services, being primary consumers of dead plants and animals, controlling their own kind (parasites and predators), and even serving as food. Insects have served as major scientific models in studies of genetics, behavior, physiology and population dynamics.

Due to these multiple roles of insects, the Doctor of Philosophy in Entomology degree is now required for most academic, government, and industry jobs. This is primarily a research degree by which students create new knowledge through conceptualizing and conducting independent research on insects. Following comprehensive external and internal reviews of our graduate teaching program and the work of the Adhoc Curriculum Committee, our department adopted a new approach, *ecosystems to molecules as a framework for graduate student training in entomology* with learning opportunities for each student ranging from molecule to ecosystem along with professional development skills needed to prepare students to matriculate into positions in industry, government, or academia (teaching). Therefore, the proposed curriculum and associated professional development activities are aimed at training the whole scientist rather than just preparing a specialist with disciplinary knowledge. The redesigned curriculum includes courses in entomological fundamentals, hands-on research methods that use a team project approach and professional development skills fully aligned with the re-envisioned learning objectives and the conceptual and ethical framework (see figure below). Several of these courses are new and the others have been revised. In the proposed curriculum, all Ph.D. students will be required to take all three entomology ‘fundamentals’ courses, all four ‘hands-on research methods’ courses and at least two of the ‘professional development skills’ courses.



**List of Semester courses**

All students seeking a **Doctor of Philosophy in Entomology** degree are required\* to take:

All **three** of the following list of Entomology Fundamentals courses (9 credits)

Course	Title	Credits	Term
ENTMLGY 6310	Insect Physiology and Molecular Biology	3	Spring
ENTMLGY 6410	Insect Ecology and Evolutionary Processes	3	Autumn
ENTMLGY 5130	Field Insect Taxonomy	3	Summer

All **four** of the following list of Hands-on Research Methods in Entomology courses (4 credits)

Course	Title	Credits	Term
ENTMLGY 6701	Biodiversity Analysis for Ecosystem Sustainability & Resilience	2	Summer
ENTMLGY 6702	Entomological Techniques and Data Analysis	2	Autumn
ENTMLGY 6703	Molecular Techniques and Data Analysis	2	Spring
ENTMLGY 6704	Systems Analysis from Molecules to Ecosystems	2	Spring

At least **two** from the following list of Professional Development Skills courses (4 credits)

Course	Title	Credits	Term
ENTMLGY 7910	The Nature and Practice of Science	2	Autumn
ENTMLGY 7920	Presentation Skills for Scientists	2	Autumn
ENTMLGY 7930	Scientific Writing and Grant Proposal Development	2	Spring
ENTMLGY 7940	Interdisciplinary Research, Leadership and Team Work	2	Spring

\*Petitions to the Graduate Studies Committee can be made to exclude any course if the student can provide evidence of a similar course taken at OSU or elsewhere.

All **Ph.D.** students are also required to take one **ENTMLGY 8800 Research and Training Seminar (1 credit)**, one **ENTMLGY 8000 Entomology Seminar (1 credit)**, and **ENTMLGY 8999 Research credits (any number)**.

Number of required course credits = 23  
 Number of elective and research credits = 57  
**Total number of required credits =80**

**Possible Electives**

In addition to the above requirements, students may choose any number of elective courses based on their interest or recommendations by the advisory committee. These electives may also include ENTMLGY 7890 (Special Topics), ENTMLGY 6183 (Individual Studies), ENTMLGY 6194 (Group Studies), any of the ENTMLGY 5000 series courses, or courses offered in other units.

**Electives offered by our unit**

Course	Title	Credits	Term
ENTMLGY 5110	Ecology and Management of Pathogens and Insects Affecting Trees in Forest and Urban Environments	3	Autumn
ENTMLGY 5120	Aquatic Insect Biology and Ecology	3	Summer
ENTMLGY 5420	Insect Behavior	3	Spring
ENTMLGY 5500	Biological Control of Arthropod Pests	3	Autumn
ENTMLGY 5600	Principles and Applications of Integrated Pest Management	3	Autumn
ENTMLGY 5623	Insect Morphology	2	Autumn
ENTMLGY 5800	Pesticide Science	3	Spring
ENTMLGY 6193	Individual Studies	1-3	any

ENTMLGY 6194	Group Studies	1-3	any
ENTMLGY 7890	Special Topics	1-2	any

**Transition Policy**

A student entering the Ph.D. program in Entomology in Autumn 2010 should be able to finish coursework prior to the transition. A student entering the Entomology Ph.D. program in Academic Year 2011-2012 will spend up to one year in the current quarter system and subsequent terms in the new semester system. A suggested course plan is below.

**A typical schedule for Entomology Ph.D. program in Academic Years 2011-2013:**

Year	Term	Required Courses*	Possible Elective Courses
	<b>Quarters</b>		
1	Autumn 2011	880 (8880), 631 (6310)	
1	Winter 2012	694 (6704), 790 (7910)	494 (5800)
1	Spring 2012	694 (7940), 694 (7930)	660 (5600)
	<b>Semesters</b>		
2	Summer 2012	6701, 5130	5120 (612)
2	Autumn 2012	6410 (641), 7920	5110 (461), 5500 (650)
2	Spring 2013	6702, 6703, 7930	5420 (642), 5623

\*8800, 5130, 6310, 6410, 6701, 6702, 6703, and 6704 are required of all students; students will choose at least two out of 7910, 7920, 7930, and 7940.

During the transition period, the Entomology Graduate Studies Committee may allow substitutions of courses that are more appropriate for the student's individual graduate program.

Curriculum map for graduate Entomology courses: rated as **B** for beginning level, **M** for intermediate level, **A** for advanced level.

LEARNING OBJECTIVE >>>	1. Students will achieve an understanding of insect biology at the molecular, cellular, organ, organismal, population, community, ecosystem, and biosphere levels and their interconnections to discover system-level phenomena.	2. Students will achieve a holistic understanding of managed and natural ecosystems using insects as models.	3. Students will achieve a holistic understanding of sustainability in ways that cross disciplinary boundaries from entomology to natural, physical, economic and social sciences.	4. Students will achieve an appreciation of the threats and ecosystem services attributed to insects and how these can shape scientific discovery, policy formation, and resource management decisions.	5. Students will achieve an understanding of theory, principles, and tactics of integrated management of insects as pests.	6. Students will achieve an understanding of the history and the nature of science including the generation and application of new knowledge, including discovery and hypothesis testing.	7. Students will achieve an ethical framework for inquiry and action in science and society that includes entrepreneurship and business; collaboration, political and community engagement; and environmental stewardship.	8. Students will achieve a demonstrated ability to apply quantitative and critical thinking skills to issue-based cross-disciplinary work and to communicate effectively to multiple audiences.	9. Students will achieve an experience-based literacy in current techniques for outreach, engagement and classroom teaching.	10. Students will achieve an appreciation and familiarity with the outreach and engagement mission of the land grant system, and its history to the service of society.
COURSE										
V										
V										
ENT 5110	M	M	M	A	A	B	B	-	-	M
ENT 5120	M	-	M	A	M	B	M	-	-	-
ENT 5130	A	-	M	-	M	M	M	M	-	-
ENT 5420	A	M	-	M	M	M	M	-	-	-
ENT 5500	A	M	A	A	A	A	M	B	B	M
ENT 5601	M	A	A	M	M	M	A	M	M	M
ENT 5604	M	A	M	M	M	M	A	M	M	M
ENT 5605	B	B	B	M	M	B	B	-	-	-
ENT 5623	A	-	-	B	-	-	B	-	-	-
ENT 5800	M	B	M	A	A	B	M	-	-	-
ENT 6310	A	-	-	-	-	A	-	A	-	-
ENT 6410	A	A	M	A	M	A	M	A	-	-
ENT 6600	-	-	M	A	A	-	M	M	M	A
ENT 6701	A	M	M	-	-	M	-	-	M	-
ENT 6702	A	-	-	M	-	A	A	-	-	-
ENT 6703	B	B	B	B	M	B	M	B	B	B
ENT 6704	A	A	A	M	M	M	-	-	-	-
ENT 7910	-	-	-	M	M	A	A	-	-	A
ENT 7920	-	-	-	-	-	-	B	A	A	A
ENT 7930	-	-	-	M	M	A	M	M	M	M
ENT 7940	A	A	A	A	A	A	A	A	A	A
ENT 7890	A	A	A	A	A	A	A	A	A	M
ENT 8000	A	A	A	A	A	A	A	A	A	A
ENT 8800	M	B	B	B	B	M	M	-	-	-
ENT 8999	-	-	-	-	-	A	-	-	-	-

November 2010