BOB L. HERD

DEPARTMENT OF PETROLEUM ENGINEERING

TEXAS TECH

Whitacre College of Engineering

Master's Program Handbook

Contents

Welcome:

Welcome to the Bob L. Herd Department of Petroleum Engineering at Texas Tech University. This handbook contains information that is essential to your success in this department. You are responsible for becoming familiar with this handbook and following the instructions provided. This handbook aims to answer questions that you may have throughout your time in this department.

This handbook clarifies the policies, procedures, and guidelines for completing the MS degree in Petroleum Engineering. Policies regarding various aspects of graduate student activities are established to protect students as well as to maintain the high standards of the program. Compliance with stated policies, procedures, and guidelines is the responsibility of the student, and failure to do so may result in suspension, probation, or delay in graduation. The policies stated herein supplement those for the Graduate School at Texas Tech University and do not in any way supersede those standards already documented. Students are encouraged to become familiar with the policies and those published in the Graduate Catalog, available at: http://www.depts.ttu.edu/officialpublications/catalog/index.php

If you have further questions, please contact the Graduate Advisor or the Academic Administrative Coordinator.

James Sheng, PhD

Professor

james.sheng@ttu.edu

Hailey Wilson

Academic Administrative Coordinator

Hailey.s.wilson@ttu.edu

University Academic Regulation

1. Full-time study

All graduate students are required to be enrolled in spring and fall semesters. Students with assistantships or other appointments (TA, RA) are required to keep full-time status in both summer sessions. This requirement means that students that are RA's or TA's must be enrolled in the summer sessions (3 credit hours each session).

Full-time is considered for long semesters to be between 9-16 credit hours and 3 credit hours for summer sessions.

2. Continuous Enrollment

Students who have begun thesis research must register for 6000 courses, in each regular semester and at least once each summer until all degree requirements have been completed unless granted an official leave of absence from the program for medical or other exceptional reasons. Students officially classified as off-campus students may register for 1 hour of 6000 with departmental approval until their final semester, at which time they must enroll in at least 3 hours.

3. Leave of Absence

Any student who fails to register during a fall or spring semester and who does not have an official leave of absence form is subject to review for readmission by the standards in effect at the time of reconsideration. Official leave of absence, which is granted by the Dean of the Graduate School upon department recommendation, may be requested only in case of serious medical conditions and other exceptional reasons. Normally, leaves of absence will not exceed one year. Leaves of absences do not extend the maximum time allowed for completion of the degree.

4. Required Thesis/Dissertation Hours

Registration for at least 6 hours of 6000 is required for a master's thesis, 3 hours of 6001 for non-thesis, and at least 12 hours of PETR 8000 for a doctoral dissertation. Once the project has begun, a student must be enrolled in such

courses every semester and for at least one term during the summer until completion. A student should enroll under the committee chairperson; however, in those instances in which other professors on the committee are making a substantial contribution to the student's research, it is permissible for the student to enroll proportionally under those professors. Students certified as off-campus may enroll for as little as 1 hour until their final semester, at which time 3 hours minimum is required.

Students may not enroll in thesis or dissertation courses before the formal admission to a degree program by the graduate dean.

Enrollment for thesis or dissertation courses is permitted only during a regular registration period. Students away from the campus may, however, register for such courses by mail, provided arrangements are made with the registrar's office by telephone or electronically before the beginning of a registration period.

Students are required to register for appropriate courses every semester or summer term in which they are expected to receive assistance, use the facilities of the university, or take comprehensive examinations.

The number of hours for which students must enroll each semester depends on their level of involvement in research and their use of university facilities and faculty time. Students in residence who are devoting full time to research should enroll for 9 to 12 hours.

5. Registration in the Semester of Graduation

There are 3 official graduation dates: December, May, and August. Every candidate for a graduate degree must be registered in the Graduate School in the session of graduation. Students must be registered for at least 3 hours of coursework at the 6000 level (thesis option) if all requirements are met. Failure to graduate at the expected time requires such additional registrations as may be necessary for graduation. A new "Statement of Intention to Graduate" is required for each semester.

6. Maximum Allowable Graduate Hours

Students who are in programs other than doctoral programs and are not making timely progress toward the completion of their degree are subject to termination by the graduate dean. Graduate students beyond the maximum allowable graduate hours are determined by the Texas Legislature and may be required to pay out-of-state tuition, regardless of residence status. The maximum time allowed for completing a master's degree is. The graduate dean must approve exceptions or extensions in advance.

7. Academic Probation and Suspension

Every student enrolled in the Graduate School, whether working toward a degree or not, is required to maintain a high level of performance and to comply fully with the policies of the institution. The Graduate School reserves the right to place on probation or suspend any post-baccalaureate or graduate student who does not maintain satisfactory academic standing or who fails to conform to the regulations of the university.

Students whose cumulative graduate GPA falls below 3.0 are placed on academic probation and have two consecutive terms to raise their cumulative GPA to at least 3.0 to avoid academic suspension from the Graduate School. If their semester GPA drops below 3.0 during the two-semester period, students are subject to academic suspension from the Graduate School. If their cumulative graduate GPA remains less than 3.0 and their term GPA is greater than 3.0 in the next term, they are placed on continued probation. If the student's overall GPA remains below 3.0 in the following term, they are placed on academic suspension. In accordance with OP 64.07, any student who has been suspended must appeal to the Graduate School if reinstatement is desired. A student who is suspended twice will not be allowed to return to the Graduate School. Students may be suspended for unprofessional conduct such as cheating or plagiarism. Any appeal of such action is subject to the provisions of the Code of Student Conduct.

If a student's GPA falls below a 3.0 GPA due to an extenuating circumstance, they must let their faculty advisor know. The faculty advisor will notify the graduate committee who will review the circumstances and decide on what exceptions to make for the student.

Graduate Financial Aid & Scholarships

There are various financial aid possibilities available to graduate students who decide to enroll in the graduate program at Texas Tech University. However, this will not be effective before one or two semesters after the graduate students join the program unless granted a TA or RA position.

Four sources of financial support exist in the department:

1. Teaching Assistantship (TA)

Students may apply to be a Teaching Assistant after they have successfully passed the ITA (International Teaching Assistant) workshop if English is their second language. TA's are required to be full-time students and are required to take online Lab Safety training, EEO, and FERPA training as well as attend safety briefings. Students are appointed for three years but are regularly assessed on their performance and may be terminated before the three years if the TA is not performing adequately or not making substantial progress toward their degree. TA's are also required to maintain a 3.5 GPA. If a TA falls below a 3.5 GPA, they will have one semester to bring it back up. If they fail to do so, they will be at risk of losing their TA position. TA's are expected to work 20 hours a week on the course that they are assigned. TA's will be evaluated on their performance every semester. If TA's have two or more unsatisfied evaluations, they will be terminated from their positon. Information about tuition and fee exemptions for TA's can be found here: https://www.depts.ttu.edu/opmanual/OP62.40.php.

2. Research Assistantship (RA)

These positions depend on the research activity in the department. Faculty who have funded research projects may need help and offer positions to qualified graduate students to help the project managers complete their projects. Research assistants are offered salaries comparable to teaching assistants. These salaries are in general sufficient for the students to pay for their living expenses and tuition fees. Information about tuition and fee exemptions for RAs can be found here: https://www.depts.ttu.edu/opmanual/OP62.40.php.

3. Scholarship/Fellowship Opportunities

Various scholarships are available at different levels in the university (COE, graduate school, etc.) Graduate students need to apply for these scholarships individually https://www.depts.ttu.edu/scholarships/Even though the amount of money varies from one type of scholarship to the next, all students are urged to apply as soon as they join the graduate program. An added advantage of these scholarships is that they entitle international as well as non-resident graduate students to benefit from substantially discounted tuition fees.

4. Part-time Jobs

The Petroleum Engineering Department has positions as Graders that Graduate Students may apply for. Finally, numerous part-time job opportunities exist on campus and outside. The fast-growing City of Lubbock allows for many part-time job opportunities in various fields.

Departmental Requirements for Master's Students:

Master's students may choose between either the thesis option or the report option (also referred to as the Non-Thesis option). The specific requirements are detailed below.

All MS Students must maintain a cumulative GPA of 3.0 to stay in the program. Students will meet with the Academic Administrative Coordinator every semester for advising.

Students are highly encouraged to attend 2 writing workshops hosted by the graduate school or University. Please visit the Graduate School website for more information about workshops https://www.depts.ttu.edu/gradschool/.

Students are ultimately responsible for the completion of their degree. The graduate school's outline of the major required steps for the master's degree is found below (page 15 of the Appendix). It is the responsibility of the student to make sure that all the steps are completed on time and in the appropriate manner.

Advisor

The department Graduate Advisor will temporarily serve as the Faculty Advisor for each student during the student's first semester. Newly admitted students are required to meet with the department Academic Administrative Coordinator for advising and registration.

Each long semester, faculty members of the department will present in the seminar course PETR 5121 (*students are required to attend every semester*) highlighting their research topics. Students will use these presentations to determine which faculty members would be the best fit for the student's research interests. Students are required to enroll in PETR 5121 their first semester of enrollment.

Each student will choose a permanent Faculty Advisor, with the blessing of the faculty member, at the end of the first semester of attendance. The Faculty Advisor will work with the student for the selection of a thesis, report, or dissertation topic.

Once a faculty member accepts the student as an advisee, a *Student-Advisor Commitment Form* must be signed by the student, the Faculty Advisor, and the Academic Administrative Coordinator. This form will be kept on file. **If the form is not on file, the student will not be granted permits to register for PETR 6000 or 6001 courses.** The Student Advisor Commitment form can be found on page 18 of the Appendix.

If a change of Advisor is facilitated by either the student or current advisor, the Graduate Committee, current advisor, student, and new advisor must be informed, and a new *Student-Advisor Commitment Form* must be submitted.

Thesis option:

The thesis option requires 30 credit hours, consisting of a minimum of 24 hours of coursework, and 6 hours of PETR 6000 Master's Thesis under their advisor. The 24 hours of course work will consist of 12 credit hours from core courses and 12 credit hours of electives. Electives taken outside of the department must be approved by your faculty advisor and the graduate advisor. **Engineering ethics (ENGR 5392) will not be counted towards the degree.** Students are required to be enrolled in the Graduate Seminar for the first semester that they are enrolled, this will not count toward the 30 credit hours for the degree. Students are required to attend the seminar in semesters that they are not registered as well.

Students are required to take at least one course from each of the 4 core areas. Core areas are Drilling Engineering, Production Engineering, Reservoir Engineering, and Formation Evaluation. Courses pertaining to each of the core areas and possible electives are outlined on page 13.

Required Courses for the M.S. Thesis Option

Core Courses:	12 credit hours (minimum)
Electives:	12 credit hours (minimum)
PETR 6000:	6 credit hours (minimum)
	30 credit hours

*Students are **required** to submit 1 abstract to a conference approved by their advisor each long semester they are enrolled in PETR 6000.*

Students who register for PETR 6000 must maintain continuous enrollment or risk suspension from the University. This enrollment includes at least one credit hour of thesis in the summer semester as well. The student must be enrolled in a minimum of 3 credit hours of PETR 6000 in their graduating semester.

Thesis Committee selection

The thesis committee must consist of at least two members in addition to the committee chair (faculty advisor). At least one of these two members must be a faculty member with a full-time appointment in the Petroleum Engineering Department. Three committee members is preferable. All of these committee members should hold a tenured, tenure-track, or graduate level approved faculty position at Texas Tech University.

Occasionally, a thesis committee could include an additional member from the industry or national laboratory. This additional committee member must hold a Ph.D. degree in engineering or science and should be approved by the Graduate Advisor and the Graduate School. For this purpose, the thesis committee chair (the faculty advisor) should provide a one-paragraph justification for the need to select a committee member from outside of Texas Tech University.

Thesis Defense

Students who are pursuing the thesis option must submit to the graduate school a written thesis that is approved by the Thesis Committee. It is the student's responsibility to make sure that proper English is used and that the physical form (margins, spacing, etc.) is acceptable. Students are encouraged to visit the Texas Tech Writing Center http://uwc.ttu.edu/ before submitting their thesis to their advisor or committee. The formatting guidelines for the thesis can be found here: https://www.depts.ttu.edu/gradschool/academic/thesis_diss/forms/2023-2024/Formatting_Manual_2024_final.pdf

Students are required to have at least one conference or journal paper accepted in order to graduate with the thesis option. You may consult your faculty advisor to see which conferences and journals are deemed acceptable.

Students are required to defend their thesis in an oral presentation to their Advisory Committee. A draft of the thesis must be provided to the Advisory Committee at ***least one*** *week before the defense*. The date and place of the defense presentation must be advertised *at least* ***two*** *weeks in advance* of the defense and the presentation must be open to the public. It is the student's responsibility to provide these details to the Academic Administrative Coordinator *at least* ***three*** *weeks prior*, so a room may be booked, and an advertisement can be created and put on the department monitors. The Master's and Doctoral Notification Form must be submitted to the Academic Administrative Coordinator at the same time. This can be found on the graduate school website https://www.depts.ttu.edu/gradschool/.

An Electronic copy (ETD) of the thesis must be submitted to the Graduate School during the semester of graduation. The Graduate School sets specific deadlines for each graduation period. Academic calendars can be found on the Official Publications website. Please see https://www.depts.ttu.edu/officialpublications/calendar/.

The committee will fill out the Oral Exam and Thesis Defense Form and submit it to the Academic Administrative Coordinator who will submit it to the graduate school following the defense.

Non-Thesis Option (also referred to as the Report Option):

Students may choose to do a report instead of a thesis. This requires 30 credit hours including 27 hours of course work and 3 hours of PETR 6001. The 30 hours of course work will consist of 9 credit hours from core courses and 18 credit hours of electives. Electives taken outside of the department must be approved by your faculty advisor and the graduate advisor. **Engineering ethics (ENGR 5392) will not be counted towards the degree.** Students are required to be enrolled in the Graduate Seminar for the first semester that they are enrolled, this will not count toward the 30 credit hours for the degree. Students are required to attend the seminar in semesters that they are not registered as well.

Students are required to take at least one course from 3 of the core areas. Core areas are Drilling Engineering, Production Engineering, Reservoir Engineering, and Formation Evaluation. Courses pertaining to each of the core areas and possible electives are outlined on the next page.

Required Credit Hours for the M.S. Non-Thesis Option

Core Courses:	9 credit hours (minimum)
Electives:	18 credit hours (minimum)
PETR 6001:	3 credit hours (minimum)
	30 credit hours

Comprehensive Exam:

Every student who chooses the non-thesis option must pass a comprehensive exam. The nature of the comprehensive exam may change from advisor to advisor. In most instances, it is the presentation of a report to your advisor. The Comprehensive Exam form must be completed by the faculty advisor and turned in to the Academic Administrative Coordinator **one month before graduation**. Specific dates are set by the graduate school. Please see https://www.depts.ttu.edu/officialpublications/calendar/ for deadlines.

Degree Plan: Program for the Master's Degree and Admission to Candidacy Form

A curriculum checklist is provided for your convenience on pages 16 and 17. This form will help determine which courses are required. If electives are taken outside of Petroleum Engineering, the faculty advisor will have to send written approval to the Academic Administrative Coordinator.
Any substitutions for courses must be approved by the Graduate Advisor and must be recorded through written documentation (either a memo or an email in your file).

Carbon Capture Storage Minor:

Master's students (thesis and non-thesis) have the opportunity to add the CCS minor to their degree program. This minor consists of 9 credit hours which students can choose three courses from the following: PETR 5309-Hydrocarbon Reservoir Simulation, PETR 5307-Enhanced Oil Recovery, PETR 5318-Hydrocarbon and CO2 Process Engineering, and PETR 5326-Geoenergy and Carbon Management. Please let the graduate advisor know if you are interested in adding this minor.

Courses:

All graduate-level petroleum engineering courses must be taken for credit. No more than three hours of PETR 6300 can appear in a master's degree plan without approval from the graduate dean. **In person students cannot take online courses in the department.**

The curriculum is organized into four petroleum engineering areas as specified in the Society of Petroleum Engineering nomenclature. In each area, the courses are divided into core courses and elective courses. The master's degree plan of a petroleum engineering student must include at least one course from at least 3 core areas. Core courses taken beyond the required 3 may count as electives.

Course descriptions can be found on the online catalog
https://catalog.ttu.edu/content.php?catoid=9&navoid=987

All PETR 6000, 6001, and 6300 courses need faculty member approval. All students are required to register for PETR 5121 for the first semester of enrollment. Students should notify their graduate advisor **immediately** when receiving a grade of C, D, or F, before dropping a course, or when withdrawing from the university, to gain a full understanding of the implications and develop a plan for the future. Department policy states, that one C in a course results in a warning. One D or lower or two C's result in the student being placed on probation. Students CAN NOT graduate with less than a 3.0 GPA. All courses taken, including leveling courses, will count toward the cumulative GPA and course grades cannot be replaced. See the Graduate School section of the catalog for academic standing rules https://catalog.ttu.edu/content.php?catoid=9&navoid=987.

Core Area	Core Classes	Core Classes
Reservoir Engineering	Advanced Reservoir Engineering PETR 5320	Pressure Transient Analysis PETR 5308
Production Engineering	Advanced Production Engineering PETR 5316	Well Completion and Stimulation PETR 5317
Drilling Engineering	Advanced Drilling Techniques PETR 5303	Horizontal Well Techniques PETR 5315
Formation Evaluation	Advanced Well Log Analysis PETR 5304 *Pre- req for PETR 5305	Advanced Form Evaluation PETR 5305

Core Area	***Elective* Courses**	***Elective* Courses**
Reservoir Engineering	Hydrocarbon Reservoir Simulation PETR 5309	Advanced Simulation Techniques PETR 5310
	EOR PETR 5307	Waterflooding Techniques PETR 5325
	Advanced Phase Behavior PETR 5323	Thermal Oil Recovery PETR 5311
	Adv. Core Analysis PETR 5329	
Production Engineering	Hydrocarbon and CO2 Process Engineering PETR 5318	Multiphase Flow in Pipes PETR 5319
	Advanced Artificial Lift Methods PETR 5306	Nodal Analysis PETR 5314
Formation Evaluation	Geostatistics for Reservoir Engineering PETR 5324	Advanced Property Evaluation PETR 5328
Computational Modeling and Simulation	Numerical Application in Petroleum Engineering PETR 5313	Simulation of EOR Applications PETR 5312

** Students who do not have a degree in petroleum engineering will be required to take four leveling courses before they can take advanced PETR courses (PETR 5304, PETR 5380, and PETR 5381, you will have the choice to choose PETR 5383 **or** PETR 5385 as one of your leveling courses). These will count towards your electives and will factor into your cumulative GPA. C's in leveling courses are not acceptable. **

Statement of Intention to Graduate Forms (Thesis and Non-Thesis)

A student planning to graduate must file a "Statement of Intention to Graduate" through their Raiderlink portal. This must be completed at the beginning of the semester of intended graduation. A candidate who fails to graduate at the expected time is required to file a new "Statement of Intention to Graduate" for any subsequent graduation and enroll in that semester.

Appendix

TEXAS TECH UNIVERSITY
Graduate School

Required Steps for the MASTER'S DEGREE

	ACTION	INITIATED THROUGH	SUBMITTED TO	TIME
1	Plan courses for degree	Graduate Advisor	Graduate Advisor	Before registration
2	Set up thesis advisory committee and title, if applicable	Graduate Advisor	Graduate Advisor	Before filing "Program for the Master's Degree and Admission to Candidacy" form
3	File "PROGRAM FOR THE MASTER'S DEGREE AND ADMISSION TO CANDIDACY" form (Not to be confused with the "Statement of Intention to Graduate" form, see #6 below)	Graduate Advisor or Chair, Advisory Committee	Graduate School Enrollment Management	After first semester of master's coursework, no later than the posted deadline
4	File changes in degree program, as necessary	Graduate Advisor or Chair, Advisory Committee	Graduate School Enrollment Management	As needed
5	Enroll in semester of graduation (at least 3 hours of thesis, if defending thesis)	Graduate Advisor or Chair, Advisory Committee	Registrar	Semester of graduation
6	File "STATEMENT OF INTENTION TO GRADUATE" form, including official title of thesis, if applicable. (Not to be confused with the "Program for Master's Degree and Admission to Candidacy" form see #3 above)	Student	Graduate School Enrollment Management	Semester of graduation (One must be filed for each intended graduation semester)
7	Schedule final comprehensive examination and/or defense. Send email to the Thesis Coordinator indicating the time and date of the defense.	Student	Graduate School Thesis Coordinator	Semester of graduation (usually about 6 weeks before graduation)
8	After the exam, the advisor sends REPORT ON COMPREHENSIVE EXAM FORM to Enrollment Management.	Graduate Advisor (non-thesis option)	Graduate School Enrollment Management	By posted deadline
9	After defense, obtain committee signatures on the ORAL DEFENSE and THESIS- DISSERTATION APPROVAL FORM and submit to Graduate School	Student (thesis option)	Graduate School Thesis Coordinator	Prior to deadline during semester of graduation
10	Pay Thesis-Dissertation fee, if applicable	Student (thesis option)	Student Business Services	Prior to deadline during semester of graduation
11	After incorporating committee changes, submit .pdf file of thesis to the ETD site for official review	Student (thesis option)	Graduate School Thesis Coordinator	Semester of graduation (usually5 weeks before graduation date)
12	Final grade for thesis hours (A or B) Grade will be "CR" until final semester	Chair, Advisory Committee	Registrar Final grade roll	End of semester
13	Submit official .pdf of thesis to ETD web site (MM students submit PDF programs to ETD site and turn CDs of performances in to the Graduate School)	Student	Graduate School Thesis Coordinator	Prior to deadline

Student Name_____

R Number_____

PETROLEUM ENGINEERING THESIS CURRICULUM CHECKLIST

Thesis students in Petroleum Engineering are required to fulfil **30** hours as follows:

☐ **Thesis PETR 6000**- 6 credit hours (no more than 6 hours of 6000 will count towards your degree)

☐ **Seminar PETR 5121** Must register for the first 3 long semesters. (Does not count toward your 30 required hours)

Students must take 3 core courses in 3 different core areas (9 credit hours)

Drilling Engineering: *PETR 5303 or PETR 5315*

Production Engineering: *PETR 5316 or PETR 5317*

Reservoir Engineering: *Peter 5308 or PETR 5320*

Formation Evaluation: *PETR 5304 or PETR 5305*

1._____ ___ 3._____ ___

2._____ ___

The remaining 5 courses (15 credit hours) will consist of elective courses. Courses that were counted as a core course cannot also count as an elective:

1._____ ___ 3._____ ___

2._____ ___ 4._____ ___

5._____

Student Name_____

R Number_____

Graduation Date_____

PETROLEUM ENGINEERING NON-THESIS CURRICULUM CHECKLIST

Non-thesis students in Petroleum Engineering are required to fulfil **30** hours as follows:

☐ **Report PETR 6001**- 3 credit hours (no more than 3 hours of 6001 will count towards your degree)

☐ **Seminar PETR 5121** Must register for the first semester. (Does not count toward your 30 required hours)

Students must take 3 core courses in 3 different core areas (9 credit hours)

Drilling Engineering: *PETR 5303 or PETR 5315*

Production Engineering: *PETR 5316 or PETR 5317*

Reservoir Engineering: *Peter 5308 or PETR 5320*

Formation Evaluation: *PETR 5304 or PETR 5305*

1. _____ 3. _____
2. _____

The remaining 6 courses (18 credit hours) will consist of elective courses. Courses that were counted as a core course cannot also count as an elective:

1. _____ 4_
2. _____ 5_
3. _____ 6_
7. _____

Student-Advisor Commitment Form

Student Name: _____

Faculty Committee Advisor*: _____

Circle Current Degree Program: **Ph.D.** **M.S.**

Date Joined the Department: _____

Student's Area of Interest: _____

The individuals listed above agree that they shall work together as Student and Committee Advisor on the student's Report/Thesis/Dissertation. By signing this form, both the faculty member and student are agreeing to work together until the completion of the student's Report/Thesis/Dissertation. If either the faculty member or student no longer wishes to continue working together as Student and Committee Advisor for any reason, no change in advisor may be made unless approved by the Graduate Program Committee.

_____

Student Name (print) ***Student Signature***

Date

_____

Committee Advisor Name* (Print) ***Committee Advisor Signature****

Date

_____

Graduate Program Representative Name (print) ***Graduate Program Representative Signature***

Date

Faculty selected by student and Graduate Program Committee who will serve as student's advisor during the completion of their final project including Report, Thesis, or Dissertation.

Petroleum Engineering Thesis Rubric

2024-2025

Candidate Name:_____

Title of Thesis:_____

Date:_____

Category	Performance Ratings					
	Exceptional	Above Average	Average	Below Average	Very Poor	Score
	5	4	3	2	1	
I. Quality of Oral Communication: Communicates research theory, methodology and results clearly.						
II. Quality of Written Thesis: Communicates research theory, methodology and results clearly.						
III. Relevance: Technical contribution of the research completed.						
IV. Results: Analyzed and interpreted.						
V. Publications: Professional publication(s) resulted/expected or patent(s) filed before thesis. (Patent=1.5 publications.)	(3+ pub.)	(2 pubs.)	(1 pub.)	(0 pubs.)	(0 pubs.)	
					Total Score:	
					Average Score:	

Name of Committee Member:_____

Signature of Committee Member:_____