SYLLABUS RECA 361 - SAMPLE
Live and Studio Recording

STUDIO TIME BOOKING AT: http://film.lmu.edu/studioL

INSTRUCTOR:
Dr. Mladen Milicevic, Office – Xavier Hall 312, Tel. 338-4575
Email: MMilicev@lmu.edu

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Thursday</th>
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</thead>
<tbody>
<tr>
<td>10:30 – 12:00 Office</td>
<td>10:00 – 1:00 RECA 361 Burns 108 (Studio L)</td>
<td>10:30 – 12:00 Office Xavier Hall # 312</td>
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<tr>
<td>4:30 – 7:00 RECA 464</td>
<td>1:35 – 2:50 RECA 361 Burns 108 (Studio L)</td>
<td>1:35 – 2:50 RECA 361 Burns 108 (Studio L)</td>
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<td>7:15 – 10:00 RECA 470</td>
<td>3:30 – 5:00 Office Xavier Hall # 312</td>
<td>3:30 – 5:00 Office Xavier Hall # 312</td>
</tr>
<tr>
<td>Burns 108 (Studio L)</td>
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COURSE DESCRIPTION:

**Emphasis:**
Live and studio music recording and production esthetic issues and technical procedures.

**Objectives:**
To familiarize the student with the artistic considerations related to P.A. and music recording. To provide a basic understanding of live P.A. and studio recording processes.

**Content:**
- Usage of the control room in STUDIO L
- Recording session organization set-up procedures.
- Microphone selection and placement.
- Procedures for recording “live” music in a studio setting.
- Introduction to stereo mixing considerations.
- Live sound reinforcement and recording techniques.

**ESTIMATED COST FOR THE CLASS:**
You will have to spend at least $20.00.

**TEXTBOOK:**

*Since you are enrolled into the Recording Arts Program - DO NOT SELL YOUR TEXTBOOKS - you are going to need them, for more advanced classes but also later on in professional life!!!
ATTENDANCE:
Attendance will be taken at each class meeting. Absence from more than 10% of the scheduled class sessions, whether excused or unexcused, is excessive and GRADE PENALTIES will occur according to these rules: If you miss 10% of the classes your FINAL CLASS GRADE will go down for the whole lettergrade. For every additional 10% you will lose another lettergrade. Class participation is mandatory.

GRADING:

OBLIGATORY Studio L - SET-UP AND OPERATION TEST
Understanding the signal flow and handling the studio equipment.

Live sound reinforcement equipment setup.

20% Pro Tools MIX
20% LIVE SOUND TECHNIQUES (Concerts on March 3, April 4 and 14 – 10:00 AM-2:00 PM)
10% SESSION EVALUATIONS
50% STUDIO PERFORMANCE
Engineering an individual project & assisting on a session. All aspects of producing your project will be factored into this part of your grade, including your pre-production planning, performance as an engineer, production documentation, individual meetings, journals entries, etc.

No late assignments will be accepted, and no incompletes for the course will be granted. This means that you should have a BACK-UP solution, just in case that your musicians walk out on you the very day before your session.

Should this happen and you HAVE NO BACK-UP – YOU WILL FAIL THE CLASS!

NEED I SAY MORE ABOUT THIS ISSUE!

GRADING PENALTIES
There is absolutely NO smoking, eating, or drinking allowed in the classroom (STUDIO L). I will take 5% off your final grade for every student caught and for all the students in his/her presence.

GRADING SCALE:

A 97% - 100% superior
A- 93% - 96% outstanding
B+ 89% - 92% very good
B 85% - 88% good
B- 81% - 84% better than average
C+ 77% - 80% above average
C 73% - 76% average
C- 68% - 72% below average (this is not a passing grade in courses requiring a minimum grade of C)
D 64% - 67% poor
F 63% - below failure
Syllabus Safety Blurb,

SAFETY: Since the School of Film and Television is fully committed to safety and sensible risk management, every student will be required to adhere to all safety and risk management policies. The School considers violation of the Safety and Risk Management policies infractions of the LMU Student Honor Code (Cf. Undergraduate and Graduate Bulletin 2005-2006, section G). In accordance with the Honor Code guidelines and process, disciplinary measures may range from warnings, to failure in the course to expulsion from the University. Additionally, any footage acquired during the commission of a violation of these policies will be disallowed from the project.

Students in violation of SFTV policies also risk suspension of Privileges. Privileges include access to SFTV Production and Post Production resources and equipment and participating at the end of the semester screenings. When a violation occurs, the Instructor, the appropriate Coordinator, HOPA and the Acting Associate Dean will meet to determine whether and to what extent the student shall incur temporary loss of privileges, or they may jointly make a recommendation to the Dean for permanent loss of privileges.

SFTV Grading Screenings:

The Final Screenings are grading sessions. They are open to, and welcome, all SFTV students, the entire SFTV community and invited guests including key crew and alumni. There will be a special screening for friends and family at the end of the grading week. The procedures for the end Final Screenings will be announced. In accordance with departmental policy, student projects will not be screened past the maximum length specified in the syllabus.

INTELLECTUAL PROPERTY ISSUES:

Works Created by Students Other Than in the Course of Employment

1. A copyrightable work created by a student other than in the course of employment by the University is wholly-owned by the student, subject to the terms of any applicable Sponsored Project.
2. The student right of ownership is limited to the underlying fixed work of authorship created by the student and does not extend to the data or other scholarly information that the student may have collected, obtained or used during a project, research or other work.
3. The University may display, copy and distribute works of student-developed material for internal university use without payment of royalties or other fees to the student.

THINGS TO REMEMBER:

Garbage in – garbage out. The most important thing for you is to find the talent (the musicians) that can play. Do not record what is “dear” to you, but rather what is competently played.
RECA 361: Live and Studio Recording

RECA 361: Live and Studio Recording

COURSE HANDBOOK
# COURSE HANDBOOK

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</tr>
<tr>
<td>19</td>
<td>Session Evaluation Instructions------------------------</td>
<td>30</td>
</tr>
</tbody>
</table>
LMU SFTV, RECORDING ARTS DEPARTMENT
RECORDING PROJECT PARTICIPATION AGREEMENT

Student/Producer: ____________________________________________________________

Course #: _________________________________________________________________

--------------------------------------------------------------------------------

Participating Artist: __________________________________________________________

Address: ___________________________________________________________________

Cell phone #: _______________________________________________________________

--------------------------------------------------------------------------------

Title of musical selection to be recorded: ____________________________

CONDITIONS

• Recording sessions occurring within Loyola Marymount University’s Recording Arts (LMU RECA) facilities are intended solely for educational purposes and may be interrupted at any time for instructional reasons.
• The LMU RECA reserves the right to cancel or terminate any session or projects at any time it deems such action necessary or appropriate.
• Unauthorized, undocumented or improper use of LMU RECA recording facilities will result in loss of studio access and/or a fine.
• No one, except specifically authorized LMU students, may operate the LMU RECA recording equipment.
• The “participating artist” agrees that LMU is not responsible for any damage or loss incurred by him/her due to his/her participation in this recording project.
• The “student/producer” must provide a list of the people who will be present at his/her sessions. Only those persons whose name appears on that list may attend.
• The “student/producer” and his/her guests must abide by all the rules of LMU and the LMU RECA while on university grounds.
• The “student/producer” is responsible for any damage or loss suffered by LMU due to his/her actions or those of his/her guests.
• The “student/producer” is responsible for leaving the studio, equipment and adjacent areas in a clean, undamaged and secure condition.
• Recordings (on whatever recording media) produced within LMU RECA recording facilities are the property of the “student/producer.” Recordings may not be released to anyone until they have been reviewed at the end of the semester in their completed form and graded by the instructor. The LMU RECA will only release recording media directly to the “student/producer.”
• The Participating Artist agrees to give the right to LMU RECA to use, up to 30 seconds long selection from their recordings, to be put as streaming audio files on the RECA web site for departmental promotional purposes.

I have read all the above statements and the LMU RECA Studio Rules and agree to all the conditions specified:

Student/Producer’s Signature: ____________________________ Date: ____________

Participating Artist’s Signature: ____________________________ Date: ____________
LMU Recording Arts
STUDIO RULES

ACCESS

No one is authorized to use a Loyola Marymount SFTV Recording Arts Studio L without express written permission in the form of a sound studio booking form, which must be posted outside the door of the studio during the session. Unauthorized or undocumented use of a studio will result in loss of access to the studio and/or a fine. The LMU RECA reserves the right to stop or cancel any session at any time it deems necessary.

CONDUCT

FOOD, DRINKS AND SMOKING ARE NOT PERMITTED ANYWHERE WITHIN THE CONFINES OF A LMU RECA DEPARTMENT RECORDING FACILITY. This includes the control room, main performance area and isolation booth.

EQUIPMENT USE

No one other than authorized LMU students, staff or faculty may operate LMU SFTV recording equipment.

No one other than authorized LMU employees may repair or perform maintenance procedures on LMU RECA recording equipment. Under no circumstances should anyone else attempt any repairs, calibrations, rewiring or reconfigurations of such equipment.

All LMU RECA monitoring amplifiers and monitoring equalization units must remain at their fixed settings. Students may not adjust either a monitoring system or a cue system to suit their personal tastes.

RESPONSIBILITY

Students who know of LMU RECA audio equipment that is in need of maintenance or repair are required to inform the RECA Sound (Dusk Bennett) office on the second floor of the CA building, in writing, or filling out Equipment Malfunction online form as soon as possible.

Excessive monitoring levels for extended periods of time pose a very serious health hazard. The student who booked a session is required to insure that the studio’s monitoring systems are operated at the safe listening levels during that session.

The student who books a facility has full responsibility for the safety and proper use of its equipment and for the conduct of his/her guests. When a session is completed, it is also his/her responsibility to leave the studio in a clean, secure and normalized condition.
• All reservations for studio time must be **cleared** with Mladen Milicevic, and then registered with the RECA Sound (Dusk Bennett). Unauthorized or undocumented use of the studio will result in loss of access to the studio and/or a fine.

• You may see the Studio "L" booking chart on the WWW using the following URL: [http://film.lmu.edu/studioL/](http://film.lmu.edu/studioL/)

• Booking for Studio L takes place on a priority basis - but equal shared time. This means that every student should ideally get equal amount of studio time.

• Each week, students are able to book two sessions, up to four weeks in advance.

• No one may schedule more than two sessions for any given week, unless there are still open slots after everyone has had an opportunity to book time during that week.

• No one may book more than the total number of sessions allocated to each student enrolled in a given course during a given semester. If available studio time goes unused during the course of the semester, there is no guarantee that everyone in the class will have the opportunity to book all the sessions they would otherwise be entitled to. **THIS MEANS - BOOK YOUR SESSIONS A.S.A.P.**

• Once a student has booked a session, that time-slot becomes that student’s responsibility and is counted against his/her total number of sessions, regardless of whether the student uses the scheduled time or not.

**Studio time is precious!**

*Use it wisely!*
## LMU Recording Arts
### Studio L Booking Procedures

**STEP 1**

Log onto STUDIO L online booking schedule and book a session. Once you receive confirmation email and can actually see at the booking schedule your session then go to next step.

**STEP 2**

Obtain a studio booking forms from the RECA Sound and fill them out. Submit the forms to Dusk Bennett for approval and signature. Before any session can be approved and scheduled, you must present Recording Project Participation Agreement (if one is not already on file)

**STEP 3**

Go to the studio and display your booking form at the clipboard at the studio’s door. Unauthorized or undocumented use of a studio will result in fines and/or loss of studio access.

**STEP 4**

Every time you go IN and OUT of studio “L” (e.g. recording session, practicing for the hands-on exam, ANYTHING…) the first thing that you MUST do, is to grab the phone and dial 7-3752.

When you get the voice mail, you should leave the massage saying:

“I …………. have checked the mike cabinet and all the microphones are there.”

If some microphones are missing you must report that IMMEDIATELY.

NOBODY is allowed into studio “L” ALONE. There must be an audio engineer and audio second (A1 and A2 – two people) – they are both required to check-in and checkout using the registration phone system 7-3752. I have to hear both voices (A1 and A2) at the time of check-in and the time of checkout. The phone massages will be checked against the TESSA card codes.

**VIOLATING THE PHONE REGISTRATION PROCEDURES WILL RESULT IN SUSPENSION OF YOUR STUDIO ACCESS PRIVILAGES FOR THE REST OF THE SEMESTER**
**LMU Recording Arts**

**SESSION LOG**

<table>
<thead>
<tr>
<th>Producer/Engineer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant Engineer</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td></td>
</tr>
<tr>
<td>Others Present *</td>
<td>1.</td>
</tr>
<tr>
<td></td>
<td>2.</td>
</tr>
<tr>
<td></td>
<td>3.</td>
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<td></td>
<td>4.</td>
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<td></td>
<td>5.</td>
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<td></td>
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<thead>
<tr>
<th>TITLE</th>
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<th>FROM</th>
<th>TO</th>
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<td></td>
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</tbody>
</table>

* STUDENTS ARE RESPONSIBLE FOR THE CONDUCT OF EVERYONE PRESENT AT THEIR SESSIONS. Guests are expected to follow campus rules of conduct and respect LMU Recording Arts policies. Students should inform their guests that LMU Public Safety officers might ask visitors to verify their identity and business on campus. Your cooperation in this matter is both essential and appreciated.

Actual Start Time: __________________  Actual End Time: __________________

Producer/Engineer’s Signature ____________________________
At the end of every session, it is your responsibility to confirm that everything on this list is back in the mic locker.

Before you leave the studio, always confirm that both locks on the mic locker are locked.

### Mics in Studio L Spring Semester 2009

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Model</th>
<th>Type</th>
<th>Pattern</th>
<th>Power</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAD</td>
<td>TRION</td>
<td>ribbon</td>
<td>cardioid</td>
<td>none</td>
<td>1</td>
</tr>
<tr>
<td>AKG</td>
<td>D 12 E</td>
<td>dynamic</td>
<td>cardioid</td>
<td>none</td>
<td>1</td>
</tr>
<tr>
<td>AKG</td>
<td>D 112</td>
<td>dynamic</td>
<td>cardioid</td>
<td>none</td>
<td>1</td>
</tr>
<tr>
<td>AKG</td>
<td>414 EB</td>
<td>condenser</td>
<td>multiple</td>
<td>phantom</td>
<td>1</td>
</tr>
<tr>
<td>AKG</td>
<td>C 452</td>
<td>condenser</td>
<td>cardioid</td>
<td>phantom</td>
<td>1</td>
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<tr>
<td>Electro-Voice</td>
<td>RE 20</td>
<td>dynamic</td>
<td>cardioid</td>
<td>none</td>
<td>1</td>
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<tr>
<td>Neumann</td>
<td>KM 84pr</td>
<td>condenser</td>
<td>cardioid</td>
<td>phantom</td>
<td>2</td>
</tr>
<tr>
<td>Neumann</td>
<td>U 87</td>
<td>condenser</td>
<td>multiple</td>
<td>phantom</td>
<td>1</td>
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<tr>
<td>Sennheiser</td>
<td>MD 421</td>
<td>dynamic</td>
<td>cardioid</td>
<td>none</td>
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<td>Heil Sound</td>
<td>PR 35</td>
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<tr>
<td>Shure</td>
<td>SM 57</td>
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<td>cardioid</td>
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<tr>
<td>Shure</td>
<td>B52</td>
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<td>supercardioid</td>
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<td>Shure</td>
<td>VP 88</td>
<td>condenser</td>
<td>m/s stereo</td>
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<td>Shure</td>
<td>KSM 32</td>
<td>condenser</td>
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<td>phantom</td>
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<tr>
<td>B &amp; K</td>
<td>4006</td>
<td>condenser</td>
<td>cardioid</td>
<td>phantom</td>
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<tr>
<td>Blue Dragonfly</td>
<td></td>
<td>condenser</td>
<td>cardioid</td>
<td>phantom</td>
<td>2</td>
</tr>
<tr>
<td>Royer</td>
<td>R 121pr</td>
<td>ribbon</td>
<td>cardioid</td>
<td>none</td>
<td>2</td>
</tr>
<tr>
<td>MXL</td>
<td>V69</td>
<td>tube condenser</td>
<td>cardioid</td>
<td>pwr supply</td>
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<tr>
<td>MXL</td>
<td>990</td>
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<td>603Spr</td>
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<tr>
<td>Crown</td>
<td>PZM</td>
<td>condenser</td>
<td>boundry</td>
<td>pwr supply</td>
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<tr>
<td>AUDIX</td>
<td>D6</td>
<td>dynamic</td>
<td>cardioid</td>
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</table>
# Microphone Application List

## ACOUTIC INSTRUMENTS (guitar, strings, etc)

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Microphone</th>
</tr>
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<tbody>
<tr>
<td>KG D-12 (low FQ)</td>
<td>AKG D-12, Crown PZM-30, Electro-Voice RE-20, Neumann KM-184, Neumann U-87, Sennheiser MD-421, Sure SM-57, Shure KSM 32, BLUE-Dragonfly, Royer 121</td>
</tr>
<tr>
<td>KG-414, Neumann KM-184, Neumann U-87, Royer R-121, Shure KSM 32, BLUE-Dragonfly</td>
<td></td>
</tr>
<tr>
<td>KG D-12 (low FQ)</td>
<td>Electro-Voice RE-20, Sennheiser MD-421, Sure SM-57, HEIL PR35</td>
</tr>
<tr>
<td>KG D-12 (low FQ)</td>
<td>AKG-414, AKG C-452, Electro-Voice RE-20, Sennheiser MD-421, Sure SM-57, Shure SM 32, HEIL PR35</td>
</tr>
<tr>
<td>KG C-452, Neumann KM-184, Neumann U-87, Royer R-121, Shure KSM 32, MXL 603s</td>
<td></td>
</tr>
</tbody>
</table>

## RUMS (basic set: snare, toms)

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Microphone</th>
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</thead>
<tbody>
<tr>
<td>KG C-452 (pads)</td>
<td>Electro-Voice RE-20, Sennheiser MD-421, Sure SM-57, HEIL PR35</td>
</tr>
<tr>
<td>KG D-112, AKG D-12 (low FQ)</td>
<td>Electro-Voice RE-20, Sennheiser MD-421, Audix D6, Shure BETA52, AD TRION (distant)</td>
</tr>
</tbody>
</table>

## ANO

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Microphone</th>
</tr>
</thead>
<tbody>
<tr>
<td>KG-414, AKG C-452, AKG C-460, Neumann KM-184, Neumann U-87, Royer R-121, Shure KSM 32, BLUE-Dragonfly</td>
<td></td>
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## OCALS

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Microphone</th>
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<tr>
<td>KG-414, Neumann U-87, Sure SM-57, Royer R-121, Shure KSM 32, BLUE-Dragonfly, XL V69, MXL V67</td>
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</tr>
<tr>
<td>KG-414, AKG C-452, AKG C-460, Electro-Voice RE-20, Neumann U-87, Sennheiser MD-421, Sure SM-57, Royer R-121, Shure KSM 32, BLUE-Dragonfly</td>
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## UTE

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Microphone</th>
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<tbody>
<tr>
<td>KG-414, AKG C-452, Neumann KM-184, Neumann U-87, Royer R-121, Shure KSM 32</td>
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## OODWINDS

<table>
<thead>
<tr>
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</tr>
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<tbody>
<tr>
<td>KG-414, Neumann U-87, Sennheiser MD-421, Royer R-121, Shure KSM 32</td>
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## NSEMBLES

<table>
<thead>
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<tbody>
<tr>
<td>KG-414, Neumann KM-184, Neumann U-87, Royer R-121, Shure KSM 32, BLUE-Dragonfly</td>
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MU Recording Arts

<table>
<thead>
<tr>
<th>Input</th>
<th>Instrument</th>
<th>Microphone</th>
<th>Pattern</th>
<th>Pad</th>
<th>Track</th>
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<tbody>
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<td>1</td>
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</table>
LMU Recording Arts - Studio Layout Plan

Producer/Engineer ___________________________________________
Assistant Engineer ___________________________________________
Artist ______________________________________________________
Session Date ________________________________________________

Session Time

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**LMU Recording Arts**

**INSTRUMENT CODES**

* Writing out the complete name of an instrument on console channels and track sheets is encouraged, whenever possible.

* However, when abbreviations are necessary, the following codes should be used on all LMU Recording Arts in-house projects in order to facilitate communication amongst LMU students and faculty.

* Any instrument names not included here should be written out completely in order to avoid misinterpretation.

<table>
<thead>
<tr>
<th>INSTRUMENT</th>
<th>CODE</th>
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<tbody>
<tr>
<td>guitar</td>
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<tr>
<td>bass guitar</td>
<td>BASS</td>
</tr>
<tr>
<td>piano</td>
<td>PNO</td>
</tr>
<tr>
<td>synthesizer</td>
<td>SYNT</td>
</tr>
<tr>
<td>vocal</td>
<td>VOX</td>
</tr>
<tr>
<td>background vocals</td>
<td>BG’S</td>
</tr>
<tr>
<td>bass drum</td>
<td>KICK</td>
</tr>
<tr>
<td>snare drum</td>
<td>SNR</td>
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<tr>
<td>hi hat</td>
<td>HH</td>
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<tr>
<td>tom-toms</td>
<td>TOM</td>
</tr>
<tr>
<td>cymbals</td>
<td>CYM</td>
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<tr>
<td>drum overhead mics</td>
<td>OH</td>
</tr>
<tr>
<td>room mics</td>
<td>ROOM</td>
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<tr>
<td>lead instruments</td>
<td>LD</td>
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<tr>
<td>acoustic instruments</td>
<td>AC</td>
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<tr>
<td>electric instruments</td>
<td>EL</td>
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<tr>
<td>direct instruments</td>
<td>DI</td>
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<td>stereo: left</td>
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<tr>
<td>stereo: right</td>
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POPULAR SONG STRUCTURE

**INTRO:** Introduction to the song, usually instrumental that may not be repeated.

**MUSICAL BRIDGE (the hook):** A musical phrase that repeats throughout the song and bridges the different parts of the song.

**VERSE:** The “story”, or lyrical part of the song. It is usually not repeated in narrative-driven songs such as “Piano Man” by Billy Joel.

**PRE CHORUS:** The link between the verses and the chorus. It makes a dramatic preparation for the chorus. It may modulate the harmony to the key of the chorus.

**CHORUS (Refrain):** This is the most important part of the song musically and lyrically. Here the narrative point is made and the strongest melody content is presented. This part repeats throughout the song.

**BRIDGE:** Release, a completely new section of a song. Used to break the monotony of continuous verse/pre-chorus/chorus structure.

**SOLO:** An instrumental or vocal improvisation performed to the musical structure of the chorus (most commonly), but verse or a totally new structure could be also used. The solo essentially replaces the existing lyrics and melody.

**OUTRO:** Fade out, a closing chorus that may repeat continuously until the music “fades out”. The end of a song, which may utilize any of the previous song elements in a fashion, not found within the “core” of the song.
EVERYDAY IS A WINDING ROAD  
**(SHERYL CROW, JEFF TROTT, BRIAN MACLEOD)**

<table>
<thead>
<tr>
<th><strong>INTRO:</strong></th>
<th><strong>VERSE:</strong></th>
<th><strong>PRE-CHORUS:</strong></th>
<th><strong>CHORUS:</strong></th>
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<tr>
<td>Musical intro drums 4</td>
<td>I hitched a ride with a vending machine repair man He said he’s been down this road more than twice He was high on intellectualism</td>
<td>Jump in, let’s go Lay back, enjoy the show Everybody gets high, everybody gets low These are the days when anything goes 8</td>
<td>Everyday is a winding road I get a little bit closer Everyday is a faded sign I get a little bit closer to feeling fine 8</td>
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<table>
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<tr>
<th><strong>MUSICAL BRIDGE:</strong></th>
<th><strong>VERSE:</strong></th>
<th><strong>PRE-CHORUS:</strong></th>
<th><strong>CHORUS:</strong></th>
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<tr>
<td>Slide Guitar 8</td>
<td>I’ve never been there but the brochure looks nice 8</td>
<td>Jump in, let’s go Lay back, enjoy the show Everybody gets high Everybody gets low These are the days when anything goes 8</td>
<td>Everyday is a winding road I get a little bit closer Everyday is a faded sign I get a little bit closer to feeling fine TWICE 16</td>
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<tr>
<th><strong>MUSICAL BRIDGE:</strong></th>
<th><strong>VERSE:</strong></th>
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<tr>
<td>Slide Guitar 4</td>
<td>He’s got a daughter he calls Easter She was born a Tuesday night I’m just wondering why I feel so all alone</td>
<td>Jump in, let’s go Lay back, enjoy the show Everybody gets high Everybody gets low These are the days when anything goes 8</td>
<td>Everyday is a winding road I get a little bit closer Everyday is a faded sign I get a little bit closer to feeling fine</td>
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<tr>
<th><strong>MUSICAL BRIDGE:</strong></th>
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<th><strong>CHORUS:</strong></th>
<th><strong>OUTRO:</strong></th>
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<tr>
<td>Harmony 4</td>
<td>I’ve been swimming in a sea of anarchy I’ve been living on coffee and nicotine I’ve been wondering if all the things I’ve ever seen Were ever real, were ever really happening</td>
<td>Everyday is a winding road I get a little bit closer Everyday is a faded sign I get a little bit closer TWICE 16</td>
<td>Feeling fine… Everyday is a winding road Everyday is a winding road 8 + FADE OUT</td>
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**RECORDING TIPS**
THE DRUMS

HOW TO GET A GOOD SOUNDING KIT

The acoustics of the room in which you are going to record the drums will tremendously affect the way your drums are going to sound on tape. If your recording studio is more on the "dead" side the drums you record in it are going to sound "tight". You are not going to be able to hear the room in which the drums were recorded. This type of drum sound is frequently used in R&B and some pop music.

If your studio acoustics are "live" the drums recorded in that room are going to sound much bigger and be more suitable for hard/alternative rock sound.

If your drums do not sound good live when you listen to the sound in the room, there are not going to sound any better when you put them on the tape. It is an absolute must to have brand new heads put on the drums a day before you walk into the studio.

You may get musicians that will bring to the recording session all kinds of drums that may be perfectly fine for live performances and tours but completely inappropriate for the recording in a studio.

Kick Drum
The most versatile and useful size for the kick drum is 24-inch with Ambassador head with a black dot. If you want more "pop" sound from your kick drum you may opt to use a wooden beater while for more low frequency response you may go for the hard felt beater. You will also like to keep the front head off the kick drum so you can place all kinds of padding props inside the drum to control the resonance. If you have too much ringing you may even have your padding pillows inside the drum touch the front head.

Tuning the kick drum is also important and somewhat confusing. When you want your kick to sound lower you actually tighten up the head, because if you make it loose the lows will be so low that will become inaudible and you will hear only highs from the punch of the beater. Consequently if you want more sharp attack to the kick you will loosen it a bit in order to make the lows deliberately inaudible and emphasize the beater.

Tom-Toms
The most useful size combination is 12" 14" and 16" for the floor tom. If your drummer uses more than 3 toms that you will probably go within an inch of the difference in sizes among the toms.

If your drummer plays hard than you should use heavier heads than if it plays softer. You want your toms to hold up sound longer.

It is good idea to keep bottom heads on the toms but they have to be tuned to the same pitch as the top heads so they'll vibrate sympathetically.

If your toms vibrate while producing an undesirable ring, you may have to consider damping the. You may use internal dampers but you'd get more control if you put some Kleenex or a cotton ball against the head. You should experiment with tom and bottom heads using these techniques.

Tuning the drums is very critical in a recording studio, which is not the case when playing live. You want to make sure that your entire drum resonates at the precise frequency. What that frequency is going to be depends on the song you are recording. If the song is in, say, key of C major, they the toms should be tuned to C 6/4 chord which is: 12" tom = E, 14" tom = C (middle) and 16" floor tom = G. The best way to tune the drum is to
take it of the kit and put it on the drum stool that will damp the bottom head. Then you should play a note (on a piano or guitar, or whatever you are comfortable with) that you want your tom to be tuned to and listen to that note then when the sound dies you should lightly strike the head close to the tension rods and play with the lug until it resolve to the desired pitch. Then you repeat the same procedure striking next to the every lug on the tom. When through, then strike your tom in the middle and check if it is in the "right" pitch. You should keep in mind that the drums cannot be tuned using the standard guitar electronic tuner. When you are tuning a drum you should always listen to the pitch of the very end of the drum sound. When you strike the drum, in its initial attack there is a wealth of partials which change the pitch up (this lasts fairly short) and then the pitch goes down and resolves to the note that is a mean average of the tones created when the head was hit strong. This resolution towards the end of the drum's sound is the note you want to tune to. When you get through tuning the top head then you can turn the tom over and do the same thing for the bottom head. Now the once the tom is in tune it may be ringing too much, that problem should be easily solved with dumping techniques mentioned earlier.

**Snare Drum**

There are all kind of snares available and the best one is the FIRCHIE but I doubt you will get your hands on one of those, so you should probably stay with chrome-metal snares with Remo's clear Black Dot heads. Never use a hydraulic head because their sound does not last long to give the drum nice resonance. These heads are fine for live performances because of their durability - but in a studio, the best way is to forget them.

Tuning the snare is a matter of the tempo rather than harmony, which was the case with the toms. If the song is fast then you want your snare sound to die away just before the new strike, you don't want the drum ringing over the next hit blurring the rhythm track. In that case, you will tune your snare higher to shorten the sound. Consequently, for the slower songs you would tune the snare lower in order to extend the duration of sound. It is not that critical to have the heads of the snare drum tuned at the same pitch, especially when dealing with the faster songs. If the song is slow and you want that extra thick sound then you may consider tuning it to the same pitch.

Another important matter to be considered with the snare drum is the snare wires. You have to make absolutely sure that they resonate only when snare is struck and nothing else. So, you should fiddle with adjusting the tightness of the snare wires and even go for a different kind of wires - broader or narrower ones. You may consider putting a piece of gaffer's tape across the wires to shorten their length and alter the vibrations.

All this is a matter of context that the snare is creating: a) within the entire drum set b) within the tempo of the song c) within the style of the music. So, experiment and listen what works the best. You may count ahead for having extra snares of different types and selection of snare wires.

**Crash Cymbals**

If your drummer has lots of cymbals to choose from then you should go with ones that decay in time with music. Faster songs need faster cymbal decays.

In general, cymbals should have a nice continuous decay, so you don't hear a bang and then nothing. You also don't want a cymbal that shimmers in and out during the decay. You must also make sure that when cymbals are hit together they don't cause a phase cancellation. This will happen if they are to close in pitch.

**Ride Cymbals**

This is the most critical cymbal because it is used for a time keeping purpose (like hi-hat) rather than the accents that crash cymbals are used for. In order to keep good time your ride cymbals has to have very pronounced "ping" so the attack of the stick is preserved rather than clutter of ringing. If your ride cymbal is bad you may consider using the sticks with the plastic-tips, which will help the attacks to come through.
Hi-Hat
If your drummer is playing hard then the heavier cymbals with lots of "clank" are preferred. For the lighter pop-oriented music the sibilant and the high-end quality is extremely important. That is because each beat should be distinct with its own decay time.

MIKING THE KIT

Close miking is technique used for miking each drum individually. In general, you should go for condenser mikes except for the kick and possibly the snare, which can be miked with dynamic mikes.

Kick Drum
Put the mike inside the drum using a short stand. If you want more of the attack then you should move your mike closer to the center of the drum and the batter. You should also make sure that the mike is aimed away from the floor tom pointing at about 30° off-axis.

Tom-Toms
Position a mike 2-3 inches above the head and 2 inches inside the rim at a 30° angle. Make sure that you engage PAD switch to avoid the overload. Now, if you hear any ringing on the toms when the kick drum is played you should use some damping techniques discussed earlier to remedy the problem. The floor tom mike should be positioned carefully because it can easily pick up the leakage from the kick drum. Thus, you should position the mike away from the kick similarly you positioned the kick mike away from the floor tom. So again, 2-3 inches above the head and 2 inches inside the rim at a 30° angle away from the kick. Damping of the floor tom is really critical because it can pick up vibrations from the kick very easily - therefore, watch out for the ringing and get rid of it.
Snare Drum
When miking the snare there are two things to be considered: a) leakage from the hi-hat, and b) picking up the snare wires. The first one is solved by positioning the mike away from the hi-hat 2-3 inches above the head and 2 inches inside the rim at a 30° angle, the second one is much trickier and may require using an additional mike from the bottom of the snare. This situation should be avoided at any cost, but if employed the bottom mike should more definitely be out of phase in relation to the top mike.

Hi-Hat
Miking the hi-hat depends on the way the drummer plays. Generally, miking towards the center will give you more attack and miking towards the edge will render more sibilants. Again, with the hi-hat the main concern is to avoid the leakage from the snare so 2-3 inches above the top and 2 inches inside the cymbal at a 30° angle away from the snare should be fine. However, you should experiment with different placement varying the ratio between the center and the edge until you get what you are looking for.

Overheads
These mikes play twofold role in miking the kit. They provide definition and clarity for the cymbals and they provide stereo imaging and the ambience for the whole kit. You should position these two mikes about a foot above the cymbals in a spaced stereo miking technique (x/y and ORTF are also acceptable if that is what you want, however the A/B will give you wider space but you should be always aware of the mono compatibility when using A/B). So, once you position the mikes you should have your drummer play the snare only and make sure that its sound comes from the center in A/B stereo image. If that is not the case then you should keep repositioning overhead mikes until you achieve snare being fused in the middle. When, that is done, you should go ahead and listen to the whole kit through the overheads and adjust the panning of the individual drums to match the panning that you are getting from the overheads. The best way to figure out how to pan the tom toms, if you are recording then onto two L+R tracks is to put the overhead mikes on one speaker (left or right, depending on which tom you are trying to pan) and then while listening to that one speaker pan the toms individually. What you should be listening for is phase cancellation while you searching for the right position. When you hit the correct spot the tom and the overheads should be in phase.

Room Mikes
There are lots of applications where you would consider using another pair of stereo mikes in addition to overheads. These mikes should be raised much higher and spread much wider than the overhead mikes. You should picture this as a "V" pattern where the snare drum is at the bottom of the "V" the overheads half way up and the room mike on the top of the each side of the "V". Room mikes are very important in capturing the room ambience and the further away you place them the more room you will get.
Now, after you tuned your kit and position the mikes you may go ahead and balance the whole thing with EQ. Important thing to consider here is that you can EQ the drums while recording them, but also during the mix down. In general, I like to be less aggressive with cutting frequencies in this initial recording phase, because if you get rid of something at this stage it is nearly impossible to get it back in the mix down by rolling back on the EQ.

Before I go into the EQ for the individual drums let me consider some commonalities that apply to the whole kit. If it jingles, than you should consider the frequency range from 5 kHz and up. If it bangs, than you should consider the frequency range from 1 kHz to 5 kHz. If it thumps, than you should consider the frequency range from 100 Hz up to 500 Hz.

**Kick Drum**
EQ for the kick drum deals with several frequency bands. As much as the kick is a low-pitched instrument the punch of the kick is really important in order to preserve its distinctiveness. Boost at 3 kHz and even between 5 and 8 kHz for that extra click if you need it. For the body of kick's sound boost 100 Hz. If you boost 100 Hz +10 dB then 3 kHz should be 6 dB and 8 kHz should be 1 dB, so 3 kHz is 2/3 of 100 Hz and 8 kHz is 1/10 of 100 kHz boost.

**Snare Drum**
Boost in between 1 and 2 kHz, boost a little at 5 kHz and a little at 100 Hz.

**Tom Toms**
When doing EQ for the toms it is important to hear them in the context of the song. They may sound beautiful on their own but not to fit in the relationship with other instruments on the track. In general you may want to preserve the sound of the sticks hitting the toms and that is 7 to 8 kHz area. Then you may add some at 3 kHz and for the bottom end add 100 Hz. However, for the really big body you may consider boosting around 500 Hz.

**Hi-Hat**
Hi-Hat is an instrument that is difficult to mike and difficult to EQ, so the best approach is to do it last and listen how it fits within the entire drum set. For the sibilants you should look between 7 and 10 kHz. For the tip of the stick look around 5 kHz, and for the "clank" search between 500 Hz and 1 kHz.
Overheads
The main purpose of the overhead mikes is to bring up the cymbals. For that reason you should roll back at 200 Hz and boost between 10 and 12 kHz. You may consider adding a bit at 3 kHz if you want to enhance the "bang" of the cymbals.

Room Mikes
On these mikes you want to eliminate any low-end rumble and enhance the very high end around 15 kHz. You are trying to preserve the "air" and the ambience of the whole kit. Be aware that in 15 kHz frequency range you may be picking up the studio noise such as the AC, but these mikes are not going to be all that loud, anyway.

Gating the Drums
In my personal experience I always tried to stay away from using noise gates on drums, but sometimes it may become necessary to eliminate leakage and otherwise uncontrollable ringing. If you decide to use them try to go with low threshold and slower release in order to make the working of the gate inaudible.

Tape Compression
If you are recording in digital multitrack format this is the one feature you cannot use. However, in analog format recording the snare at about +6 dB VU will give you distortion that will produce very strong and full sound. Doing this you will lose some clarity of the attack, but you can recapture that through the overheads. The same technique applies for the toms too. Do not use tape compression on anything else. This is only possible if you are doing multitrack but if you are recording straight to 2-track this technique cannot be used.

Last Advises
While recording the drums you may find out that they produce all kind of buzzes, squeaks, whirs, and groans which are unacceptable on your recording. In that case you should go around and investigate where are they coming from and try to fix them. First thing you should make sure is that no drums physically touch any cymbal or mike stands, and that the toms are tightened on the kick, and that the drum stool is not squeaking. The foot pedal may also create some squeaking.

In addition to these problems you may find out that the way you drummer positions the drums is not the most beneficial for the recording. If you find that the snare is set to low so it is picking up too much leakage from the kick, or if the ride cymbal is to close to the floor tom mike--then you may be in trouble because at this point you have to ask your drummer to reposition the drums and start playing the way he or she is not used to.
BASS GUITAR

It is not absolutely necessary to place a new set on strings before recording session but it is highly advisable, because new strings always sound better. Which strings your bass player is going to use depends on the style of music, but you should be aware what you could get from different types of strings. Round-wound strings will sound bright, flat-wound strings will sound mellow, and half-flat-wound will give you the combination of these two.

If your bass player is using active pickups than you should make sure that the batteries are new and try to replace them before each session.

MIKING THE ELECTRIC BASS
Make sure that all the screws on the bass speaker cabinet are not loose. Raise the cabinet on the chair 2 feet from the floor. Pad the floor with a packing blanket in front of the speaker to avoid the reflections. Close mike the speaker and play at low levels in order to avoid overloading the mike. Place the mike about 3 inches from the speaker and but at an angle of 30° off the center. At this angle the mike should be pointing at a spot about halfway between the outer edge of the speaker and the center of the cone.

RECORDING DIRECT IN
If your bass player is using the passive pickups than you have to use direct box to bring the loZ signal into the console. However, if the pickups are active you may have enough level to go directly into the line input of the console, bypassing the direct box altogether.

DIRECT IN + ACOUSTIC
For this combination all you have to do is to split the guitar signal and send one line to the amplifier and the other line to the direct box. If you have enough tracks you may want to record these two signals onto two separate tracks or to combine them and record it onto a single track. The balance between the two is dependent on your personal preferences and the overall context of the song.

When using this combined signal approach you should make sure you are not running into the phase cancellation problems. Bring up the direct signal and then gradually bring up the miked signal and listen for the bottom frequencies. If the low end starts disappearing you have a phase problem. If your console has a phase inversion switch try to use it, if it does not you may have to re-solder the cables or use the phase inversion adapter.

Compressing the Bass
Compression is almost unavoidable when recording a bass. So, you should use 4:1 ratio and mild -3 dB reduction. The position of your threshold will actually depend on the playing style of your bass player. If the playing range is wide but it peaks (slaps) only occasionally, you may keep you threshold fairly low to compress the slaps and lower the dynamic range while increasing the sustain of the bass. However, when recording a stand up bass you should try to avoid compression altogether.
BASS EQ
Boost between 80 and 100 Hz, and boost also at 800 Hz. For the high-end boost at 3 kHz and at 5 kHz.

When using the two combined signals try to boost at different places for the different signals so that they complement and enhance the overall quality of the instrument.

ELECTRIC GUITAR

First thing you need to do is to figure out how you want guitar to fit onto the track. That will determine the technique you will use in recording the guitar. There are basically two general ways to go; non-distorted and distorted, and everything in between these two choices. However, the process of recording guitar is more of trial and error and should not be approached with preconceptions. Always keep in mind that you are not looking for the best guitar sound on itself but rather for the best sound that would work in the context of the song.

One thing that is important to keep in mind is that you should try to make sure that the chords on an accompanying guitar are not played in the same frequency range that is occupied by the voice. This can be easily adjusted by shifting the chords lower or higher up the guitar's neck.

There are so many different types of guitars and amplifiers, that it is very difficult to give specific guidelines, but some general points can be made. If you are looking for a clean sound than you should look for an amplifier that can give you warm and full sound at relatively low levels. On the other hand, if you are going for distorted sound than you should be looking for a high level performing amplifier and a microphone that can take a lot of pressure. When using the high-level amplifier distortion then the room acoustics play an important role. In that case you will be using a room mike and what you get from the room sound is going to become a part of your overall guitar sound. Consequently, for a clean sound you will go with no room mike and will be looking for a rather dead recording environment.

You may also consider having two different amps and feeding the same guitar signal via "Y" cable into the both amps. That way you can record two different sounds and go for the best blend between them.

CLOSE-MIKED GUITAR AMPLIFIER
Close miking is used when you want to capture the sound of the amplifier alone and avoid the room ambience. So, you would lift the speaker cabinet of the floor and place deadening materials such as packing blankets around the cabinet. The mic should be placed six to seven inches out from the amp and aimed at the speaker on an axis about 30° off center. This means that you would first position the microphone at the center of the speaker and then swivel it about three inches so that it is pointing roughly at the edge of the speaker.
CLOSE/DISTANT MIKE COMBINATION
This technique is used when you are going after a power-distorted type of sound. In addition to the close microphone just described you will add a distant room mike. This mike should be placed about six feet from the speaker and about two feet above the plane of the close mike. The exact distance is something that you should experiment with in the relation to your close mike, room acoustics, and the overall sound you are going for. However you should make sure that you place some packing blankets around your distant mike in order to avoid possible phase cancellations.

EQ FOR THE CLOSE MIKE
For the bottom add 100 Hz, and for the body of guitar sound look between 500 and 600 Hz. The edge of guitar sound lies between 3 and 4 kHz while the sibilants are pronounced between 5 and 8 kHz.

EQ FOR THE DISTANT MIKE
Distant microphone is used to give the ambience to guitar sound so you need to work on frequencies that give clarity and that is 10 kHz and above. The frequency that you want to attenuate is 200 Hz.

DI BOX RECORDING
If you want absolutely clear electric guitar sound with lots of presence and no room acoustics, then you are going to use DI box. In general the sound of directly recorded guitar is not sufficient alone and could be used in combination with the amplifier sound. This is achieved by splitting the signal coming for guitar and sending one line to the console and the other to the amp.

ACOUSTIC GUITAR
In recording acoustic guitar the room ambience plays the major component. If the guitar is going to be the sole accompaniment for a vocal, then you want this guitar to sound as big as possible, meaning that you might probably need a "live" acoustic space. On the other hand, if the guitar is going to be one of many accompanying instruments than you will look for a relatively dead acoustic space.

You are going to use close and distant miking techniques in order to capture the sound of an acoustic guitar. Close microphone should be aimed at the specific place of the guitar's body. What is that place going to be will depend on the type of sound you are going for. Again, trial and error can be used in order to determine that spot. In general, closer to the bridge will give you crispy high end sound while closer to the sound hole will render fuller and richer tone. When using a close mike on an acoustic guitar you should be aware of the guitarist's playing technique (fingerboard noises, banging the thumb against the body of guitar, etc.). The distant mike for acoustic guitar is used pretty much like the distant mike when recording amplified electric guitar and its positioning will vary depending on how much room ambience you want to capture.
EQ FOR THE ACOUSTIC GUITAR
For the full-bodied bottom you will boost 250 and 500 Hz. For finger picking you will boost in the range from 1 to 3 kHz, while for the rhythmic qualities you will look from 5 kHz and up. On the distant mike you will again go for the ambience above 10 kHz and possibly give some sparkle between 7 and 10 kHz. The bottom end around 200 Hz should be attenuated.

ACOUSTIC GUITAR COMPRESSION
In classical recordings using a compressor is unthinkable, however in pop recordings the compression is very desirable. This is because the sound of acoustic guitar dies away quickly and compression may increase its sustain. You may go for 4:1 ratio and -3 dB reduction, but try to experiment with other settings too. Whether to EQ acoustic guitar sound before or after compression is an ongoing debate, you should try both approaches and see what sounds better for your application.

ACOUSTIC PIANO

There are basically two ways the piano may fit in the song. It can provide principal accompaniment to vocal (Elton John, Bruce Hornsby) or it can be used as just another "fill" instrument in the band. In the first case the piano part is a lush and full sounding instrument, but in the second case the part should be much simpler leaving enough room in the frequency ranges for the other instruments.

The problem with acoustic pianos is that no two instruments sound alike and you have to find a way that to get the best recording of the piano you are dealing with. In the best case you will be dealing with a "well-voiced" piano, which has a smooth, even response, both in terms of volume and pitch, from the lowest note to the highest note.

In most situations you will use two microphones to record the piano. These mics should be positioned about six inches from the strings and a few inches down from the hammers. One mike should be pointing to the low register strings and the other should be pointing to the high strings. The closer the mike to the piano of the hammer noise you are going to get (rock piano). Consequently, the farther away from the piano, more of the rounded sound and less of the hammer noise (slow ballads). Whether you are going to record these two mikes on one channel (mono) or on two channels (stereo) depends on piano's role in the song. If it is used as a sole accompaniment for the voice and you wan it to sound bigger than life, you will go for the full stereo effect. Generally, pianos are not recorded in full stereo because it sounds unnatural to have low strings coming from one speaker and high strings from the other speaker. The only person who hears the piano that way is somebody sitting at the piano.

Another thing you should keep in mind is to make your miking technique appropriate to the playing style of your piano player (which hand is more emphasized). The excessive use of sustain pedals, that may otherwise sound great in the living room, generally can be damaging to the recording because of the harmonically rich reverb created that way. This reverb is hard to control and difficult to fit in the track, so try to use the sustain pedals as little as possible.

You should also always think about the phase cancellation problems you may run into when dealing with two microphones. This is cancellation is especially critical when you have the piano lid on. If you are looking for an open sound you should probably remove the lid completely. If, however, you want to isolate the piano from the room ambience then you should keep the lid on its lowest position and cover the piano shell with packing blankets. All in all, it takes lots of experimentation to figure out the best microphone positions and technique for the sound you are looking for.

EQ FOR THE ACOUSTIC PIANO
As a rule, if the lower end of the piano sounds muddy you may try to cut around 200 Hz. For clarity you would look at 3 kHz and 10 kHz. In general try to make sure that your piano is not fighting with vocal for space in the range of frequencies dominant in the human voice.

**COMPRESSING THE PIANO**
Compression can be used to fix several problems with piano sound. One is to even out the tonal response of the instrument, the other one is to enhance the percussive qualities of the hammers. This is achieved with slow attack settings on the compressor.

**LEAD VOCAL**

The two most important elements in any hit record are the song and the singer. If either element falls short, so will the recording. Therefore, a great deal of care has to be taken anytime you put vocals on tape. Although the vocal may be one of the last tracks you record, it should be considered first when you sit down to work out the song.

When recording vocals you should make sure you record them in a "dead" space. Another thing that is very important is to make sure that your vocalist feels comfortable when recording. Provide a music stand and a stool, a glass of water, pleasant lighting, pleasing room temperature, and most importantly great headphone mix. This means that you are going to add all the effects that you may put later on the vocal track in the final mix, right onto the headphone mix. Even though you are not going to add these effects to the vocal track while recording, your vocalist should hear them in the headphones and feel that he or she sounds great. You have to make sure that your headphone mix is exciting (as close as to the final mix) and to do the utmost possible to please your vocalist. This should ensure an inspiring and exciting vocal performance.

You should also make sure that the vocalist does not wear any noisy jewelry or thumping his/her foot.

**VOCAL MIKING**
Microphone should be positioned about one foot away and about 2 inches above the vocalist's mouth.
VOCAL EQ
When applying EQ to a vocal it is advisable to use narrow bands to eliminate the piercing frequencies from the track. This should be done very gently because if you apply too much EQ on a narrow band it will sound unnatural.

The fundamental frequency of the male singer's voice lies somewhere between 500 Hz and 800 Hz, thus you do not have to boost in that frequency range. The sibilant area lies in the range between 5 and 7 kHz while the upper harmonics lie between 10 and 15 kHz.

VOCAL COMPRESSION
Compressing the vocal is mandatory but you do not want to over compress. The ratio of 4:1 and the gain reduction of 3 dB should be fine for most applications.

VOCAL OVERDUBBING
When recording vocals you should be aware of the vocal fatigue and make sure that you are doing everything expeditiously. Overdubbing and punching in vocal parts may save a lot of time and correct some mistakes but be aware of creating "weird" inflections. I personally like to get at least the whole portion, such as verse for example, in a single take. You may also consider recording several vocal tracks and then combining the best parts into a single composite track. You may also think of doubling your vocal track, which is usually more common in the chorus (refrain) sections of the song.

BACKING VOCALS
There are lots of possibilities for recording backing vocals and here are the two extremes. The first one is to treat them individually so you can almost identify who is singing the backing harmony part. The second one is to record so many harmony parts that they seem like a choir in which individual voices are indistinguishable. The first technique requires a much higher degree of precision than the second one.

The miking technique for the recording of the backing vocals is roughly similar to the one for lead vocal. Depending on the number of singers and your approach, you will find out a need for a wider polar pattern and greater distance from the singers to the mike. You may mike several singers with one mike, or have each singer covered by a separate mike. The first option requires the balance among the vocals to be obtained by the relationship among the individual singers and the mike. The second one would allow you to do the balancing on the mixing board. The second option gives you also more control over the EQ. Another thing to consider is to put several vocals on separate tracks. As far as the EQ on the backing vocals go, you will generally not enhance the high frequencies too much because you want that range to be occupied by the lead vocal. Regarding the compression, you will not need as much as compression as you had on the lead vocal because the dynamics of the backing vocal parts are not wide as those of the lead vocal.
THE MIX

All the elements of the mix are interrelated, and what you do to the sound of one instrument will affect all of the others. Therefore, you cannot treat the instruments as individual entities any more but rather like a part of the composite picture. This also means that you will constantly need to reevaluate the effectiveness of what you are creating, because each step you take will alter the balance of the mix. And the balance is the key to a successful mix. In the mix you are trying to create the blend of instruments with a cohesive structure, so that the listener has a point of focus. Thus, some elements will be made to play support roles while the more important elements, such as the vocal and the drums, will be made to stand out, so that they are the focus of attention. You may also use the mix to hide the weaknesses of the band you are recording. You should always keep in mind that this balance of instruments is a totally subjective matter of personal taste, however some basic ground rules can be made. Here is one thing that applies to all mixes which is that the mix should be appropriate to the style of music and the song.

In the first instance, your focus should be on the instruments that play important roles throughout the song. For example, if you have a guitar solo in the middle of the song, you will make sure that it is as dominant as the lead vocal that it is replacing. If there is a melodic hook on the keyboards that comes in and out during the choruses, you will give it some dominance too.

Your second concern is in how well the song builds. You want the recording to be exciting and the song will work much better if it builds to something. This is based on contrast and something to be exciting must be contrasted to something that is less exciting. So, if you think that you have exciting music all the time, you probably have something that is rather boring.

As a general rule, the more important an element is in the song, the closer it should be to the center. Also, low frequency instruments such as the bass should always go in the center because the frequencies below 400 Hz are extremely difficult to localize between the speakers. High frequencies are easy to localize and if you are going to play with panning that should be with high frequency sounds.

Everything that is "dry" in the mix will seem close and consequently "wet" things will seem further away. Dry elements are much easier to localize that the wet ones; so if you are going to pan, it is going to be more successful with dry that with wet sounds.

As far as the EQ goes you should make sure that you apply EQ in context of the entire mix. What counts is how well an instrument fits into the mix, not how great is sounds on its own.

Much, much, more on recording may be found here:

http://myweb.lmu.edu/mmilicevic/studiol/resources.html
NORMAL (HARD-WIRED) IN STUDIO “L”

When the console is in MIC mode, then all mic. inputs on the panels in the studios correspond to the input channels on the console, e.g. 16 on mic. panel goes into channel 16 on the console, etc. MAIN ROOM – Microphone inputs 1-24, ISO BOOTH – Microphone inputs 25-32

3  AUX send 4&5 ...................... HEADPHONE AMPLIFIER
4  AUX send 1&2 ...................... LEXICON 300 REVERB
5  AUX send 3 ......................... YAMAHA SPX1000 REVERB
6  AUX RETURN 1&2 .................. LEXICON 300 REVERB RETURN
7  AUX RETURN 3&4 ................. YAMAHA SPX1000 REVERB RETURN

TIE LINES

- MAIN ROOM – Tie lines 1-8
- ISO BOOTH – Tie lines 1-8 (only 6 available right now)
- CONTROL ROOM – Tie lines 1-4

Tie lines are nothing but connections from the “remote” locations (MAIN STUDIO ROOM and the ISO BOOTH) to the PATCHBAY. You may use it to connect any kind of signal from the “remote” location and bring it to the PATCHBAY.

In most of the cases, you may use these tie lines to carry a microphone signal to the MIC PRE. For example, being in the ISO BOOTH you may plug a microphone into the tie line and that signal will appear at the appropriate patch-point on the PATCHBAY. Then, you may take that signal and plug it into any of the MIC PREs that we have in the studio. (AVALON, TRUE, or SSL)

If you use the AVALON or SSL then you also have to take the output of those MIC PREs and connect it to the appropriate input in Pro Tools (Pro Tools TIE LINE inputs 1-8). However, if you decide to use the TRUE Precision 8 MIC PRE, then no additional patching is necessary, because the TRUE outputs are hardwired to the appropriate inputs in Pro Tools. All you have do, is to select the appropriate TRUE (1-8) input in your audio tracks in Pro Tools session.

If you want to use LINE input (such as keyboard or bass guitar) while in the CONTROL ROOM, you may do that by simply plugging a ¼” jack into the AVALON or SSL MIC PRE.

During the initial tracking session, for the scratch vocal tracks, you may also wish to plug in a microphone into a MIC PRE. To achieve that with the SSL MIC PRE, you would simply go to the back of the outboard gear rack and unplug the “loop” cable replacing it with your microphone cable. To achieve the same connection for the AVALON or the TRUE, you may use the 4 TIE LINES that are also located on the back of the outboard gear rack. This way, you would bring the microphone signal to the patchbay, and then take it from there to either AVALON or the TRUE input.
SUBMITTING YOUR RECA 361 PROJECTS

- Go to any RECA studio.
- Open your Pro Tools Session.
- Play with your files. You may combine two different takes into a single file, etc. Remove the silence at the beginning and the end.
- Your music should start at the very beginning of your session – NO DEAD SPACE.
- When done, the last thing you should do is to go into AUDIOSUITE and NORMALIZE the entire audio program in your session.
- After this, go into FILE MENU and perform BOUNCE TO DISC. Specify the following settings:
Submitting MIX Projects

For your MIXING assignments you will be given a Pro Tools session that you have to mix in studios 211, 212, 015.

After working for at least several days on your MIX, save OLNY the Pro Tools session file and give it to me on a CD-ROM, flash drive, as an email attachment, etc.

**ONLY NATIVE TDM SESSIONS WILL BE ACCEPTED**

**NO LE sessions**

This means **NO**

Digi002, Digi003 and M-Box sessions

**NO UNSUPPORTED PLUGINS**

This means **ONLY**

RECA STUDIOS PLUGINS
SESSION EVALUATION INSTRUCTIONS

REQUIREMENTS

Length: two pages
Format: typed, double spaced
Due: beginning of class the Tuesday or Thursday after the observed session

At the top of the first page of each evaluation include:

(a) Your name
(b) Date of the session
(c) Name of the engineer of the session
(d) Name of the assistant engineer

METHODOLOGY

The purpose of this assignment is to provide you with an opportunity to learn through observation and reflection. Although there is no substitute for direct, hands-on experience, one can learn a great deal about the recording process through simply being present at a session and keeping your eyes, ears and mind open.

Thus, the first part of this assignment involves just that: watching and listening critically to what is going on while a recording session is in progress. During the session, it is important to make brief notes about what is going on around you, but you must also be sure that you remain focused on the session itself while it is in progress.

Later that same day or evening, if possible, write out your thoughts in a more complete form. In any event, unless you have infallible total recall or a photographic memory, do not let too much time go by before you put preliminary observations down on paper. Before completing your final draft of your paper, give yourself some time to think about what you saw and heard.
CONSIDERATIONS AND GUIDELINES

Consider the following questions and suggestions when observing a session. In one or two pages, you cannot touch upon all of these points, but use them as guidelines for considering what is going on in a session. Write about what you thought was most noteworthy about a particular session. Always be constructive and thoughtful in your remarks.

• What microphones were selected, how were they positioned and how effectively did they serve their purpose?

• Observe and comment upon the placement of the musicians and their equipment/instruments in the performance areas (studio and ISO booths). What effect did this have on their ability to communicate and on their sounds?

• Think about how the logistics of isolation were handled. Did the strategy seem to work? How was the sound of the instruments affected?

• Was the console set up in a logical and efficient configuration?

• What outboard gear was used? Was it used judiciously and at the appropriate stage in the proceedings?

• What equalization was applied and how effective was it in improving the sound?

• In general, did the order in which things were done make sense to you?

• Did an inordinate amount of time or attention get paid to any part of the process?

• Think about the rhythm of the session. Did things move smoothly? If so, what contributed to that? If not, why not?

• Did each member of the production team seem to know what their respective roles were and feel comfortable doing what was expected of them?

• How well did the members of the production team communicate with each other and with the musicians?

• How did the musicians seem to feel about the session? ...the way they sounded? ...their performance? ...the results of the session?

• Did the production team seem sensitive to the musicians’ needs? Were the musicians kept adequately informed about what was going on during all stages of the session? Did they seem comfortable? ...confused? ...frustrated?

• Was the headphone mix given adequate consideration? Did the musicians seem to be satisfied with what they were hearing?

• Did the production team seem to understand the type of music they were recording and adjust their approach accordingly?

• Was anything overlooked by the production team, technically or otherwise, that had an adverse effect on the final outcome of the session?
• In general, could you follow the reasoning behind what was being done during the session and why?

• Did any questions occur to you during or after the session with respect to the methods or procedures employed? Could you eventually answer them yourself or are you still unsure about certain points?

• Was anything unique, idiosyncratic, original or offbeat attempted during the session that you feel produced a desirable result?

• What would you emulate (or at least like to try for yourself) with respect to how this session was conducted?

• Was there anything specific that you would have done differently and why?